SYNTHESIS®

JBL

SYNTHESIS
SDP-40
DIGITAL SURROUND
PROCESSOR/CONTROLLER
USER GUIDE

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus, (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

- Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of a different line cord and/or attachment plug.
- Do not install the unit in an unventilated rack, or directly above heat producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specification.
- Never attach audio power amplifier outputs directly to any of the unit's connectors.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Section 1: Getting Started

Section 2: Basic Operation

Section 3: The SETUP Menu

Section 4: The AUDIO CONTROLS Menu

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ENGLISH
IMPORTANT SAFETY INSTRUCTIONS

US   US

Save these instructions for later use.
- Follow all instructions and warnings marked on the unit.
- Always use with the correct line voltage. Refer to the manufacturer's operating instructions for the power requirements. Be advised that different operating voltages require the use of a different line cord and/or attachment plug.
- Do not install this unit in an unventilated rack, nor directly above items that generate heat, such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specification.
- The openings on the case are provided for ventilation; to ensure reliable operation and prevent it from overheating, these openings must not be blocked or covered. Never push objects of any kind through any of the ventilation slots. Never spill any liquids on the unit.
- Never attach audio power amplifier outputs directly to any of the unit's connectors.
- To prevent shock or fire hazard, do not expose the unit to rain or moisture, or operate it where it will be exposed to moisture. Do not attempt to operate the unit if it has been dropped, damaged, exposed to liquids, or if it exhibits a distinct change in performance indicating the need for service. This unit should only be opened by qualified service personnel. Removing covers will expose you to hazardous voltages.

This triangle, which appears on your component, alerts you to the presence of uninsulated, dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

PORTUGUESE
INSTRUÇÕES DE SEGURANÇA IMPORTANTEs

PT   PT

Economize estas instruções para uso posterior.
- Siga todas as instruções e advertências marcadas na unidade.
- Sempre use com a voltagem de linha correta. Se refira ao fabricante está operando instruções para as exigências de poder. Seja aconselhado que voltagens operacionais diferentes requeiram para o uso uma corda de linha diferente ou tomada de anexo.
- Não instale esta unidade em uma prateleira de unventilated, nem diretamente sobre artigos que geram calor, como amplificadores de poder. Observe o máximo que temperatura operacional ambiente listou na especificação de produto.
- São providas as aberturas no caso para ventilação; assegurar operação segura e impedir isto de aquecer demais, não devem ser bloqueadas estas aberturas ou devem ser cobertas. Nunca empurre objetos de qualquer amável por quaisquer das aberturas de ventilação. Nunca derrame qualquer líquido na unidade.
- Nunca prenda amplificador de poder auditivo produz diretamente a quaisquer dos conectores da unidade.
- Prevenir choque ou perigo de incêndio, não exponha a unidade para chover ou umidade, ou opera isto onde será exposto a umidade. Não tente operar a unidade se foi derrubado, estragado, exposto a líquidos, ou se exibe uma mudança distinta em desempenho que indica a necessidade por serviço. Esta unidade só deveria ser aberta através de pessoal de serviço qualificado. Removendo coberturas o exporão a voltagens perigosas.

Este triângulo que se aparece em seu componente o alerta à presença de uninsulated, voltagem perigosa dentro do enclosure - voltage que pode ser suficiente para constituir um risco de choque.

Este triângulo que se aparece em seu componente o alerta a operando importantes e instruções de manutenção nesta literatura acompanhante.

DE DEUTSCH DE
WICHTIGE SICHERHEITSANWEISUNGEN

Heben Sie sich diese Sicherheitsanweisungen auch für später auf.

• Befolgen Sie alle auf der Vorrichtung stehenden Anweisungen und Warnungen.

• Immer nur mit der richtigen Spannung verwenden! Die Gebrauchsanweisungen des Herstellers informieren Sie über die elektrischen Anforderungen. Vergessen Sie nicht daß bei verschiedenen Betriebsspannungen ggf. auch verschiedene Leitungskabel und/oder Verbindungsstecker zu verwenden sind.

• Stellen Sie die Vorrichtung nicht in ein unbelüftetes Gestell oder unmittelbar über wärmeerzeugende Geräte wie z.B. Tonverstärker. Halten Sie die in den Produktspezifikationen angegebene maximale Umgebungstemperatur bei Betrieb ein.

• Schlitze und Öffnungen im Gehäuse dienen der Belüfung; um verläßlichen Betrieb sicherzustellen und Überheizen zu vermeiden dürfen diese Öffnungen nich verstopft oder abgedeckt werden. Stecken Sie nie irgend einen Gegenstand durch die Belüftungsschlitze. Vergießen Sie keine Flüssigkeiten auf den Apparat.

• Dieses Produkt is mit einem 3-drahtigen Erdungsstecker ausgerüstet. Diese Sicherheitsmaßnahme darf nicht unwirksam gemacht werden.

• Schließen Sie nie Tonverstärker unmittelbar an einen Anschluß des Apparates an.

• Um elektrischen Schlag oder Feuer zu vermeiden, setzen Sie den Apparat weder Regen noch Feuchtigkeit aus und betreiben Sie ihn nicht dort wo Wasser eindringen könnte.

• Versuchen Sie nicht den Apparat zu betreiben falls er fallen gelassen, beschädigt, oder Flüssigkeiten ausgesetzt wurde, oder falls sich seine Arbeitsweise derart ändert daß daraus ein Bedarf nach Raparatur zu schließen ist.

• Dieser Apparat sollte nur von qualifizierten Fachleuten geöffnet werden. Das Abnehmen von Abdeckungen setzt Sie gefährlichen Spannungen aus.

Dieses Dreieck auf Ihrem Apparat warnt Sie vor nicht-isolierter, gefährlicher Spannung im Gehäuse - stark genug um eine Berührungsgefahr darzustellen.

Dieses Dreieck auf Ihrem Apparat bedeutet daß wichtige Betriebs - und Wartungsanweisungen in der mitgelieferten Dokumentation zu finden sind.

ES ESPAÑOL ES
INSTRUCCIONES IMPORTANTES
DE SEGURIDAD

Guarde esta instrucciones para uso posterior.

• Utilice siempre el voltaje correcto. Diríjase a las instrucciones de operación del fabricante para obtener las especificaciones de potencia. Esté al tanto de que voltajes de operación distintos requieren el uso de cables y/o enchufes distintos.

• No instale esta unidad en un estante sin ventilación, ni tampoco directamente encima de equipos que generen calor tales como amplificadores de potencia. Fíjese en las temperaturas ambientales máximas de operación que se mencionan en las especificaciones del producto.

• Las aperturas y ranuras del chasis sirven para proveer la ventilación necesaria para operar la unidad con seguridad y para prevenir sobrecalentamiento, y por lo tanto no pueden ser obstruidas o cubiertas. No introduzca objetos de ningún tipo a través de las ranuras de ventilación, y nunca deje caer ningún líquido sobre la unidad.

• Este producto está equipado con un enchufe de 3 clavijas con conexión a tierra. Éste es un elemento de seguridad que no debe ser eliminado.

• Nunca conecte ningún tipo de salida de amplificadores de sonido directamente a los conectores de la unidad.

• Para prevenir descargas eléctricas o incendios, mantenga la unidad alejada de la lluvia, humedad o cualquier lugar en el que pueda entrar en contacto con agua.

• No trate de hacer funcionar la unidad si se ha caído, está dañada, ha entrado en contacto con líquidos, o si nota cualquier cambio brusco en su funcionamiento que indique la necesidad de hacerle un servicio de mantenimiento.

• Esta unidad deberá ser abierta únicamente por personal calificado. Si usted quita las coberturas se expondrá a voltajes peligrosos.

Este triángulo que aparece en su componente le advierte sobre la existencia dentro del chasis de voltajes peligrosos sin aislantes - voltajes que son lo suficientemente grandes como para causar electrocución.

Este triángulo que aparece en su componente lo alerta sobre las instrucciones de operación y mantenimiento importantes que están en los materiales de lectura que se incluyen.

FR   FRANÇAIS   FR
INSTRUCTIONS DE SÛRETÉ IMPORTANTES

Gardez ces instructions pour réference future.

• Observez toutes les instructions et tous les avertissements marqués sur l'appareil.

• Branchez uniquements sur un réseau de tension indiquée. Consultez le manuel d'instruction du fabriquant pour les spécifications de courant. N'oubliez pas que différentes tensions peuvent nécessiter l'utilisation de cables et/ou de fiches de connexion différents.

• N'installez pas l'appareil en un compartiment non-aéré ou directement au-dessus d'équipements générateurs de chaleur, tels qu'amplificateurs de courants, etc. Ne dépassez pas la température ambiante maximale de fonctionnement indiquée dans les spécifications du produit.

• Des fentes et ouvertures sont prévues dans le boîtier pour l'aération; Pour assurer le bon fonctionnement et pour prévenir l'échauffement, ces ouvertures ne doivent pas être couvertes ou bloquées. N'insérez pas d'objets dans les fentes d'aération. Empêchez tout liquide de se répandre sur l'appareil.

• Ce produit est muni d'une fiche à trois fils pour la mise à terre. Ceci est une mesure de sécurité et ne doit pas être contrariée.

• Ne connectez jamais d'amplificateurs audio directement aux connecteurs de l'appareil.

• Pour empêcher les chocs électriques et le danger d'incendie, évitez d'exposer l'appareil à la pluie ou à l'humidité, et ne le mettez pas en marche en un endroit où il serait exposé aux éclaboussures d'eau.

• N'essayez pas de faire fonctionner l'appareil s'il est tombé à terre, a été endommagé, exposé à un liquide, ou si vous observez des différences nettes dans son fonctionnement, indiquant la nécessité de réparations.

• Cet appareil ne doit être ouvert que par un personnel de service qualifié. En enlevant les couvercles vous vous exposez à des tensions électriques dangereuses.

⚡ Ce triangle, sur votre appareil vous avertit de la présence de tension dangereuse, non-isolée à l'intérieur du boîtier - une tension suffisante pour représenter un danger d'électrocution.

⚠ Ce triangle sur sur votre appareil vous invite de suivre d'importantes instructions d'utilisation et d'entretien dans la documentation livrée avec le produit.

IT   ITALIANO   IT
IMPORTANTI NORME DI SICUREZZA

Conservare le presenti norme per l'utilizzo futuro.

• Osservare tutte le istruzioni e le avvertenze apposte sull'unità.

• Utilizzare esclusivamente con la tensione di rete corretta. Consultare le istruzioni operative fornite dal fabbricante per i dati riguardanti la tensione e l'assorbimento di corrente. Potrebbe essere necessario l'uso di cavi di rete e/o di spine diverse a seconda della tensione utilizzata.

• Non installare l'unità in uno scaffale privo di ventilazione oppure direttamente sopra una fonte di calore, come, ad esempio, un amplificatore. Non superare la temperatura ambientale massima di funzionamento riportata nei dati tecnici del prodotto.

• Le fessure e le altre aperture nella scatola servono alla ventilazione. Per un funzionamento affidabile, e per evitare un eventuale surriscaldamento, queste aperture non vanno ostruite o coperte in nessun modo. Evitare in tutti i casi di inserire oggetti di qualsiasi genere attraverso le fessure di ventilazione. Non versare mai del liquido di nessun tipo sull'unità.

• Questo prodotto viene fornito con una spina a 3 fili con massa. Tale dispositivo di sicurezza non va eliminato.

• Evitare sempre di collegare le uscite dell'amplificatore audio direttamente ai connettori dell'unità.

• Per prevenire il pericolo di folgorazione e di incendio non esporre l'unità alla pioggia o ad un'umidità eccessiva; evitare di adoperare l'unità dove potrebbe entrare in contatto con acqua.

• Evitare di adoperare l'unità se la stessa è stata urtata violentemente, se ha subito un danno, se è stata esposta ad un liquido o in caso di un evidente cambiamento delle prestazioni che indichi la necessità di un intervento di assistenza tecnica.

• Ogni intervento sull'unità va eseguito esclusivamente da personale qualificato. La rimozione della copertura comporta l'esposizione al pericolo di folgorazione.

⚡ Il presente triangolo impresso sul componente avverte della presenza di tensioni pericolose non isolate all'interno della copertura - tali tensioni rappresentano un pericolo di folgorazione.

⚠ Il presente triangolo impresso sul componente avverte l'utente della presenza nella documentazione allegata di importanti istruzioni relative al funzionamento ed alla manutenzione.

DK DK

DANSK
VIGTIG INFORMATION OM SIKKERHED

Gem denne vejledning til senere brug.

- Følg alle anvisninger og advarsler på apparatet.
- Apparatet skal altid tilsluttes den korrekte spænding. Der henvises til brugsanvisningen, der indeholder specifikationer for strømforsyning. Der gøres opmærksom på, at ved varierende driftsspændinger kan det blive nødvendigt at bruge andre lednings- og/eller stiktyper.
- Apparatet må ikke monteres i et kabinet uden ventilation eller lige over andet udstyr, der udvikler varme, f.eks. forstærkere. Den maksimale omgivelsestemperatur ved drift, der står opført i specifikationerne, skal overholdes.
- Der er ventilationsåbninger i kabinettet. For at sikre apparatets drift og hindre overophedning må disse åbninger ikke blokeres eller tildækkes. Stik aldrig noget ind igennem ventilationsåbningerne, og pas på aldrig at spilde nogen form for væske på apparatet.
- Dette apparat er forsynet med et stik med jordforbindelse. Denne sikkerhedsforanstaltning må aldrig omgås.
- Udgangsstik fra audioforstærkere må aldrig sættes direkte i apparatet.
- Apparatet må ikke udsættes for regn eller fugt og må ikke bruges i nærheden af vand for at undgå risiko for elektrisk stød og brand.
- Apparatet må aldrig bruges, hvis det er blevet stødt, beskadiget eller vådt, eller hvis ændringer i ydelsen tyder på, at det trænger til eftersyn.
- Dette apparat må kun åbnes af fagfolk. Hvis dækslet tages af, udsættes man for livsfarlig højspænding.

⚡ Denne mærkat på komponenten advarer om uisoleret, farlig spænding i apparatet - høj nok til at give elektrisk stød.

⚠ Denne mærkat på komponenten advarer om vigtig driftsog vedlige-holdsinformation i den tilhørende litteratur.

FI FI

SUOMI
TÄRKEITÄ TURVALLISUUSOHJEITA

Säilytä nämä ohjeet tulevaa käyttöä varten.

- Seuraa kaikkia yksikköön merkittyjä ohjeita ja varoituksia.
- Käytä aina oikeaa verkkojännitettä. Tehovaatimukset selviävät valmistajan käyttöohjeista. Huomaa, että eri käyttöjännitteet saattavat vaatia toisenlaisen verkkojohdon ja/tai -pistokkeen käytön.
- Älä asenna yksikköä telineeseen jossa ei ole tuuletusta, tai välittömästi lämpöä tuottavien laitteiden, esim. tehovahvistimien, yläpuolelle. Ympäristön lämpötila käytössä ei saa ylittää tuotespesifikaation maksimilämpötilaa.
- Kotelo on varustettu tuuletusreiillä ja -aukoilla. Luotettavan toiminnan varmistamiseksi ja ylilämpenemisen välttämiseksi näitä aukkoja ei saa sulkea tai peittää. Mitään esineitä ei saa työntää tuuletusaukkoihin. Mitään nesteitä ei saa kaataa yksikköön.
- Tuote on varustettu 3-johtimisella maadoitetulla verkkopistokkeella. Tämä on turvallisuustoiminne eikä sitä saa poistaa.
- Älä kytke audiotehovahvistimen lähtöjä suoraan mihinkään yksikön liittimeen.
- Sähköiskun ja palovaaran välttämiseksi yksikkö ei saa olla sateessa tai kosteassa, eikä sitä saa käyttää märässä ympäristössä.
- Älä käytä yksikköä jos se on pudonnut, vaurioitunut, kostunut, tai jos sen suorituskyky on huomattavasti muuttunut, mikä vaatii huoltoa.
- Yksikön saa avata vain laitteeseen perehtynyt huoltohenkilö. Kansien poisto altistaa sinut vaarallisille jännitteille.

⚡ Tämä kolmio, joka esiintyy komponentissasi, varoittaa sinua eristämättömän vaarallisen jännitteen esiintymisestä yksikön sisällä. Tämä jännite saattaa olla riittävän korkea aiheuttamaan sähköiskuvaaran.

⚠ Tämä kolmio, joka esiintyy komponentissasi, kertoo sinulle, että tässä tuotedokumentoinnissa esiintyy tärkeitä käyttö- ja ylläpito-ohjeita.

NO **NORSK**
VIKTIG INFORMASJON OM SIKKERHET **NO**

Ta vare på denne veiledningen for senere bruk.

• Følg alle anvisningene og advarslene som er angitt på apparatet.

• Apparatet skal alltid anvendes med korrekt spenning. Produktbeskrivelsen inneholder spesifikasjoner for strømkrav. Vær oppmerksom på at det ved ulike driftsspenninger kan være nødvendig å bruke en annen ledning- og/eller støpseltype.

• Apparatet skal ikke monteres i skap uten ventilasjon, eller direkte over varmeproduserende utstyr, som for eksempel kraftforsterkere. Den maksimale romtemperaturen som står oppgitt i produktbeskrivelsen, skal overholdes.

• Apparatet er utstyrt med ventilasjonsåpninger. For at apparatet skal være pålitelig i bruk og ikke overopphetes, må disse åpningene ikke blokkeres eller tildekkes. Stikk aldri noe inn i ventilasjonsåpningene, og pass på at det aldri søles noen form for væske på apparatet.

• Dette apparatet er utstyrt med et jordet støpsel. Dette er en sikkerhetsforanstaltning som ikke må forandres.

• Utgangsplugger fra audioforsterkere skal aldri koples direkte til apparatet.

• Unngå brannfare og elektrisk støt ved å sørge for at apparatet ikke utsettes for regn eller fuktighet og ikke anvendes i nærheten av vann.

• Apparatet skal ikke brukes hvis det har blitt utsatt for støt, er skadet eller blitt vått, eller hvis endringer i ytelsen tyder på at det trenger service.

• Dette apparatet skal kun åpnes av fagfolk. Hvis dekselet fjernes, utsettes man for livsfarlig høyspenning.

Komponenten er merket med denne trekanten, som er en advarsel om at det finnes uisolert, farlig spenning inne i kabinettet - høy nok til å utgjøre en fare for elektrisk støt.

Komponenten er merket med denne trekanten, som betyr at den tilhørende litteraturen inneholder viktige opplysninger om drift og ved

SE **SVENSKA**
VIKTIGA SÄKERHETSFÖRESKRIFTER **SE**

Spara dessa föreskrifter för framtida bruk.

• Följ alla anvisningar och varningar som anges på enheten.

• Använd alltid rätt nätspänning. Se tillverkarens bruksanvisningar för information om effektkrav. Märkväl, att andra matningsspänningar eventuellt kräver att en annan typs nätsladd och/eller kontakt används.

• Installera inte enheten i ett oventilerat stativ, eller direkt ovanför utrustningar som avger värme, t ex effektförstärkare. Se till att omgivningens temperatur vid drift inte överskrider det angivna värdet i produktspecifikationen.

• Behållaren är försedd med hål och öppningar för ventilering. För att garantera tillförlitlig funktion och förhindra överhettning får dessa öppningar inte blockeras eller täckas. Inga föremål får skuffas in genom ventilationshålen. Inga vätskor får spillas på enheten.

• Produkten är försedd med en jordad 3-trådskontakt. Detta är en säkerhetsfunktion som inte får tas ur bruk.

• Anslut aldrig audioeffektförstärkarutgångar direkt till någon av enhetens kontakter.

• För att undvika elstöt eller brandfara får enheten inte utsättas för regn eller fukt, eller användas på ställen där den blir våt.

• Använd inte enheten om den har fallit i golvet, skadats, blivit våt, eller om dess prestanda förändrats märkbart, vilket kräver service.

• Enheten får öppnas endast av behörig servicepersonal. Farliga spänningar blir tillgängliga när locken tas bort.

Denna triangel, som visas på din komponent, varnar dig om en oisolerad farlig spänning inne i enheten. Denna spänning är eventuellt så hög att fara för elstöt föreligger.

Denna triangel, som visas på din komponent, anger att viktiga bruksanvisningar och serviceanvisningar ingår i dokumentationen i fråga.

(US) *Unpacking and Inspection*

After unpacking the unit, save all packing materials in case you ever need to ship the unit. Thoroughly inspect the modules and packing materials for signs of damage. Report any damage to the carrier at once; report equipment malfunction to your dealer.

(PT) *Desempacotando e Inspeção*

Depois de desempacotar a unidade, economiza todos os materiais de embalagem no caso de você já precisa transportar a unidade. Completamente inspecione os módulos e empacotando materiais para sinais de dano. Informe qualquer dano imediatamente ao portador; mau funcionamento de equipamento de relatório para seu negociante.

(DE) *Auspacken und Überprüfung*

Bewahren Sie nach dem Auspacken des Geräts das Verpackungsmaterial für den Fall auf, dass Sie das Gerät wieder versenden müssen. Überprüfen Sie die Module und die Verpackung sorgfältig auf Anzeichen von Beschädigung. Etwaige Schäden sind dem Transporteur unverzüglich anzuzeigen; Funktionsstörungen sind dem zuständigen Händler zu melden.

(ES) *Desembalaje e inspección*

Después de desembalar la unidad, guarde todos los materiales de embalaje por si alguna vez transportar la unidad. Inspeccione con atención los módulos y los materiales de embalaje para comprobar que no muestren desperfectos. Informe inmediatamente de cualquier desperfecto al transportista; informe de cualquier problema de funcionamiento del equipo a su distribuidor.

(FR) *Contenu de l'emballage et inspection*

Après avoir ouvert l'emballage, conservez-le pour tout retour. Inspectez avec soin les modules et les matériaux d'emballage pour tout signe de dommage. Veuillez rapporter immédiatement les dommages auprès du transporteur. Les dysfonctionnements du matériel doivent être signalés à votre revendeur.

(IT) *Disimballaggio ed ispezione*

Dopo aver disimballato l'unità, salvi tutto il materiale d'imballaggio, in caso Lei abbia bisogno di spedire l'unità. Ispezioni attentamente i moduli ed il materiale d'imballaggio per vedere se riportano segni di danno. Riporti subito ogni segno di danno al corriere; riferisca il malfunzionamento dell'attrezzatura al suo rivenditore.

1

Getting Started

Thank you for purchasing the SDP-40 Digital Controller – a reference-quality, 12-channel digital surround processor with built-in digital audio processing, 12 configurable inputs, and 3 independent zones. Beyond the standard 5.1-channel outputs, the unit features stereo rear and stereo subwoofer outputs. Additionally, the SDP-40 provides balanced audio outputs for all Main Zone and Zone 2 outputs.

Inside and out, the unit is designed with an eye toward the future. The rear panel has stereo auxiliary outputs to provide more audio channels, and a removable access plate to accommodate connectors for new technologies. Inside, three expansion slots are available for future upgrades. The system software can be upgraded in the field using the RS-232 port.

The SDP-40 features LOGIC7™ technology. LOGIC7 creates a 7.1-channel output from any input signals (except mono input signals). Unlike many decoders, LOGIC7 is compatible with most input signals and requires no special encoding. Because the improvement it provides is clearly audible, LOGIC7 is widely recognized as the finest surround decoder available.

Dolby Digital, THX Surround EX, dts, dts-ES, and Dolby Pro Logic II are also included. THX certification guarantees that specifications meet the highest standards set forth by Lucasfilm's Home THX division.

Four 32-bit DSP engines provide enormous processing power. Custom algorithms process 96kHz/24-bit audio in all listening modes. A fifth processor, the Crystal 49326 Audio DSP, decodes multi-channel compressed audio data sources. Three expansion slots make it possible to more than quadruple available processing power.

Analog sources are processed at 96kHz. Digital sources use a two-stage phase lock loop for extremely low intrinsic jitter with high-jitter rejection. Each MAIN AUDIO OUTPUT incorporates 24-bit/192kHz digital-to-analog converters operating in dual differential mode to ensure the highest quality performance. There are two broadcast-quality video switchers. The ultra-wide bandwidth component video switcher accepts any analog component or RGB video input type. The S- and composite video switcher accommodates high-quality NTSC, PAL, or SECAM video input types.

Input configuration allows any source to be assigned to any input. The unit will automatically switch between digital and analog sources. The intuitive user interface, with color on-screen display, makes it easy to configure the unit. Three subwoofer outputs and sophisticated routing provide intelligent bass management.

With its unique combination of power, flexibility, and expandability, the SDP-40 is equipped for the needs of today and the demands of tomorrow.

HIGHLIGHTS

- 12 channels
- 12 configurable inputs
- 3 zones
- 13 digital audio inputs, including 1 AES/EBU input
- 3 subwoofer outputs
- 2 auxiliary outputs for future expansion
- Dual 24-bit/192kHz digital-to-analog converters for all MAIN AUDIO OUTPUTS
- 5.1-channel analog input
- Analog bypass option (5.1-channel and stereo inputs)
- Auto switching between digital and analog connectors
- 4 component video inputs (one BNC) with full HDTV compatibility
- BNC component video output
- 8 S-video inputs
- 5 composite video inputs
- 4 32-bit DSP engines
- Broadcast quality video switching
- LOGIC7 decoding
- Dolby Digital, Dolby Pro Logic II, and Dolby Pro Logic decoding
- dts and dts-ES (discrete & matrix) decoding
- THX Ultra certification
- THX Surround EX decoding
- Upgradable software using RS-232
- 3 internal slots for future expansion
- Removable access panel for future expansion
- 2 digital audio outputs
- RS-232 control
- Rear panel IR IN connector
- 4 rear panel microphone inputs for future expansion
- 3 trigger outputs
- 19" rack-mount kit option (included)
- Balanced audio outputs

USING THE DOCUMENTATION

The SDP-40 has many impressive features. It is designed to be customized to individual systems and listening spaces. For these reasons, the information contained in this user guide is extensive.

Refer to this documentation for assistance with installation, calibration, and operation of the unit. Settings that are reached during the calibration process can be recorded on the installation worksheet located in the Appendix (see page A-12).

USER GUIDE SYMBOLS

Following are symbols that appear throughout this user guide:

WARNING   Calls attention to a procedure, practice, condition, or the like that, if not correctly performed or adhered to, could result in injury or death.

CAUTION   Calls attention to a procedure, practice, condition, or the like that, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product.

Note: Calls attention to information that is essential to highlight.

SETUP ▷ **INPUTS** ▷ **DVD1** ▷ **NAME**

Represents a menu path. The steps in grey boxes illustrate a series of selections that must be made to reach the destination in the black box. In the example above, the SETUP, INPUTS, and DVD1 options must be selected to reach the NAME menu.

LOCATION CONSIDERATIONS

The unit requires special care during installation to ensure optimal performance. The unit should be installed on a shelf or in a standard 19" equipment rack using the enclosed optional rack-mount kit.

CAUTION

Observe the following precautions when installing the unit:

- Select a dry, well-ventilated location out of direct sunlight.

- Do not stack the unit directly above heat-producing equipment, such as power amplifiers.

- Avoid placing the unit near unshielded TV or FM antennas, cable TV decoders, and other RF emitting devices. If placed in close proximity to the unit, these devices may cause interference.

- Do not obstruct the front panel IR Receiver window (see pages 2-2 and 2-6 for illustrations). The remote control must be in line-of-sight with the receiver for proper operation. If line-of-sight is impractical, an infrared remote system can be used with the rear panel IR IN connector. The unit can be placed inside a glass cabinet. However, smoked glass will reduce the range of the remote control as well as the readability of the front panel display.

NAVIGATING THE MENUS

The remote control must be used to navigate through the extensive menu structure (see page 2-8 for more information about the remote control). Pressing the MENU button accesses the MAIN MENU (pictured at the

```
MAIN MENU
─────────────
MODE ADJUST
AUDIO CONTROLS
SETUP
```

right), which can be used to access the three primary menus: MODE ADJUST, AUDIO CONTROLS, and SETUP. These menus are discussed in Sections 5, 4, and 3. The complete menu structure is illustrated in the Appendix, beginning on page A-5.

The MENU arrows navigate through all menus when the MAIN command bank is active (see page 2-8 for more information about command banks). Press the up and down MENU arrows to scroll through menu items. A scroll bar will appear on the right side of the screen when these items exceed the on-screen margins. Press the right MENU arrow to select the highlighted item. Press the left MENU arrow to exit the current menu.

TWO-LINE STATUS

The two-line status (pictured at the right) appears on the on-screen display whenever the unit receives a command or whenever

DVD1	◻◻D	VOL
5.1 L7 FILM		-30dB

the input type changes, unless the STATUS parameter on the ON-SCREEN DISPLAY menu is set to OFF (see page 3-31). Pressing the STAT button on the remote control will also display the two-line status. The two-line status that appears depends on which remote control command bank is active (see page 2-8).

The two-line status shows the current input name (top-left); the current listening mode name (bottom-left); the current input type (top-center); and the current volume level (right).

RESTORING FACTORY-DEFAULT SETTINGS

The procedure below outlines the process to restore factory-default settings. Before performing these steps, record custom settings on the installation worksheet (see page A-12). All parameters will be reset to their factory-default value. This procedure should be performed before setup begins.

To restore factory-default settings:

1. Record user-defined settings on the installation worksheet (see page A-12).

2. If the unit is on, place it into standby by pressing the ⏻ (standby) button on the remote control. If the unit is in standby, skip ahead to Step 3.

3. Power the unit on by pressing the ⏻ (standby) button on the remote control.

4. Quickly press and hold the MUTE button on the remote control until the following hidden menu appears:

```
FACTORY SETTINGS
─────────────────
EXIT
RESTORE DEFAULTS
```

The MUTE button must be pressed within 3s of powering the unit on. If the message "MUTE ON" appears in the top-left corner of the screen when the MUTE button is pressed, too much time has passed. Begin again with Step 2.

5. Use the up and down MENU arrows to highlight RESTORE DEFAULTS, then press the right MENU arrow to restore factory-default settings. (Selecting the EXIT option with the right MENU arrow will cancel the restoration of factory-default settings.)

6. The message "FACTORY SETTINGS HAVE BEEN RESTORED" will appear on the screen. Press any front panel or remote control button to restart the unit.

2

Basic Operation

FRONT PANEL

IR RECEIVER

Red LED — Amber LED

Blue LED
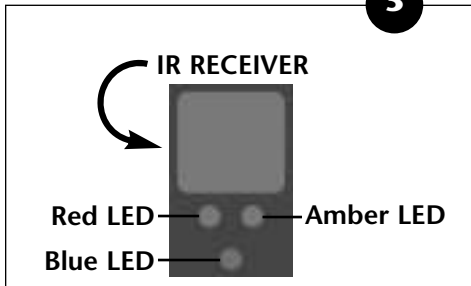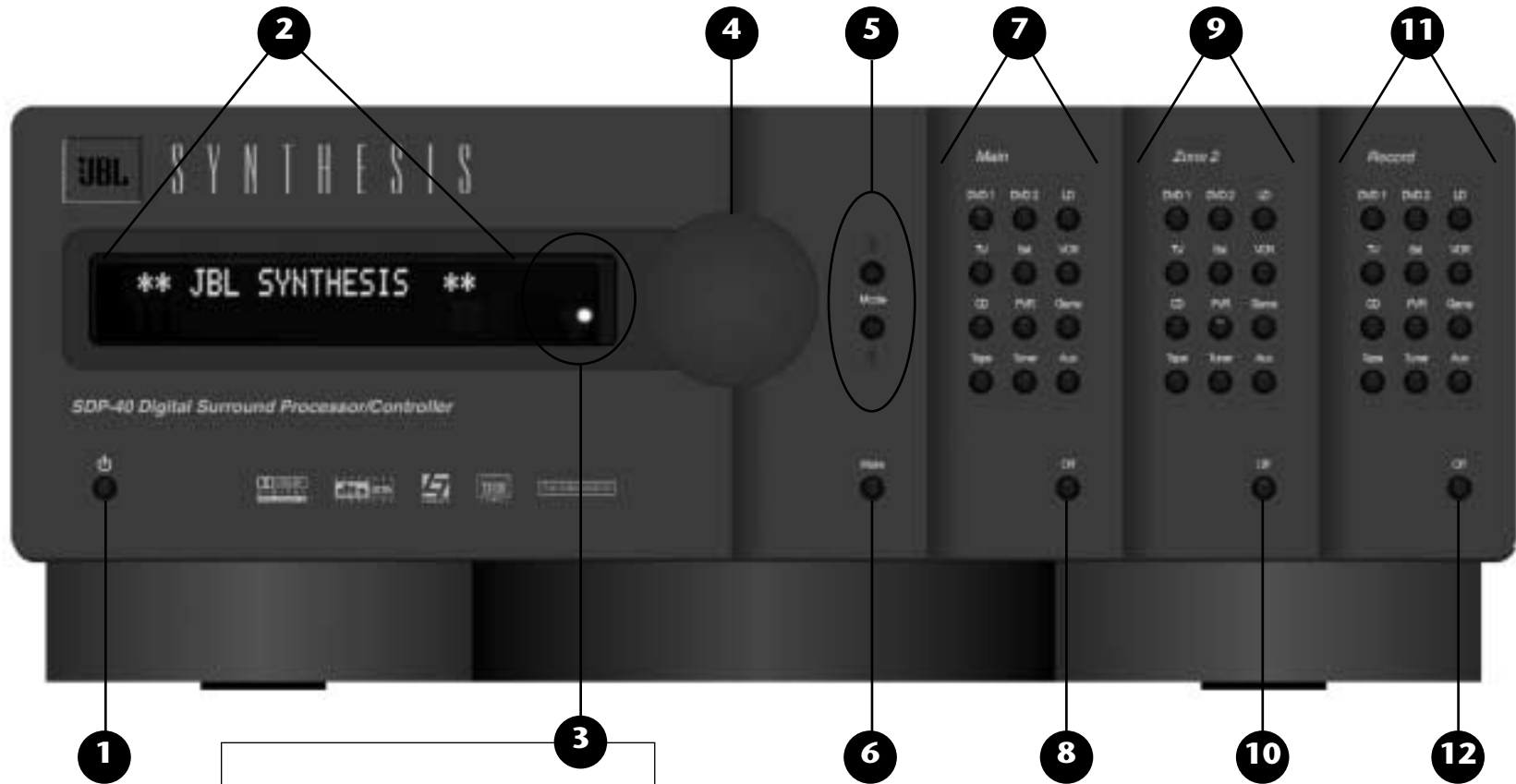
1 ⏻ **(Standby)** toggles the unit between on and standby. When the unit is on, pressing this button places the unit into standby and lights the red LED on this button. Power is still supplied to the unit when it is in standby. When the unit is in standby, pressing this button activates all zones that were active in the previous operating session.

2 The **Front Panel Display** indicates the current input name (top-left); the current listening mode name (bottom-left); the current input type (top-center); and the current volume level (right). This 2 by 20 character display can be used to view the menus, one menu item at a time. The up and down MENU arrows can be used to scroll through all menu items, provided the Main remote control command bank is active (see page 2-8)

3 The **IR Receiver** receives infrared commands from the remote control. There are three LEDs located in this area: an amber LED blinks when an infrared command is received; a red LED lights when the analog-to-digital converters are overloading; and a blue LED lights when the unit is on (even when the front panel display is deactivated).

4 The **Volume Knob** adjusts the volume level in the Main Zone. When adjustments are made, volume level is shown in dB on the on-screen and front panel displays. A horizontal bar graph illustrates adjustments.

5 The **Mode Up and Down Buttons** scroll through available listening modes in the Main Zone. Pressing the Mode Up button selects the previous listening mode; pressing the Mode Down button selects the next listening mode. See page 2-17 for more information about mode selection using the Mode up and down buttons.

6 **Mute** toggles between muting the volume level in the Main Zone, and restoring the volume to its original level. The first press lowers the volume level in the Main Zone and lights the amber LED on this button. The message "MUTE ON" appears in the top-left corner of the on-screen and front panel displays.

The second press restores the volume in the Main Zone to its original level. Mute level can be set in the VOLUME CONTROL SETUP menu (see page 3-34).

The Mute LED lights whenever mute is activated either manually or automatically by the unit. For example, the unit will briefly activate mute when changing input types or listening modes.

7 **Main Input Selection Buttons** select the input in the Main Zone, and light a corresponding blue LED. When the unit is in standby, pressing one of these buttons also activates the Main Zone. (Zone 2 and the Record Zone will remain deactivated until one of those inputs is selected.)

8 **Main Off** deactivates the Main Zone.

9 **Zone 2 Input Selection Buttons** select the input in Zone 2, and light a corresponding amber LED. When the unit is in standby, pressing one of these buttons also activates Zone 2. (The Main and Record Zones will remain deactivated until one of those inputs is selected.)

10 **Zone 2 Off** deactivates Zone 2.

11 **Record Input Selection Buttons** select the input in the Record Zone, and light a corresponding red LED. When the unit is in standby, pressing one of these buttons also activates the Record Zone. (The Main Zone and Zone 2 will remain deactivated until one of those inputs is selected.)

12 **Record Off** deactivates the Record Zone.

REAR PANEL
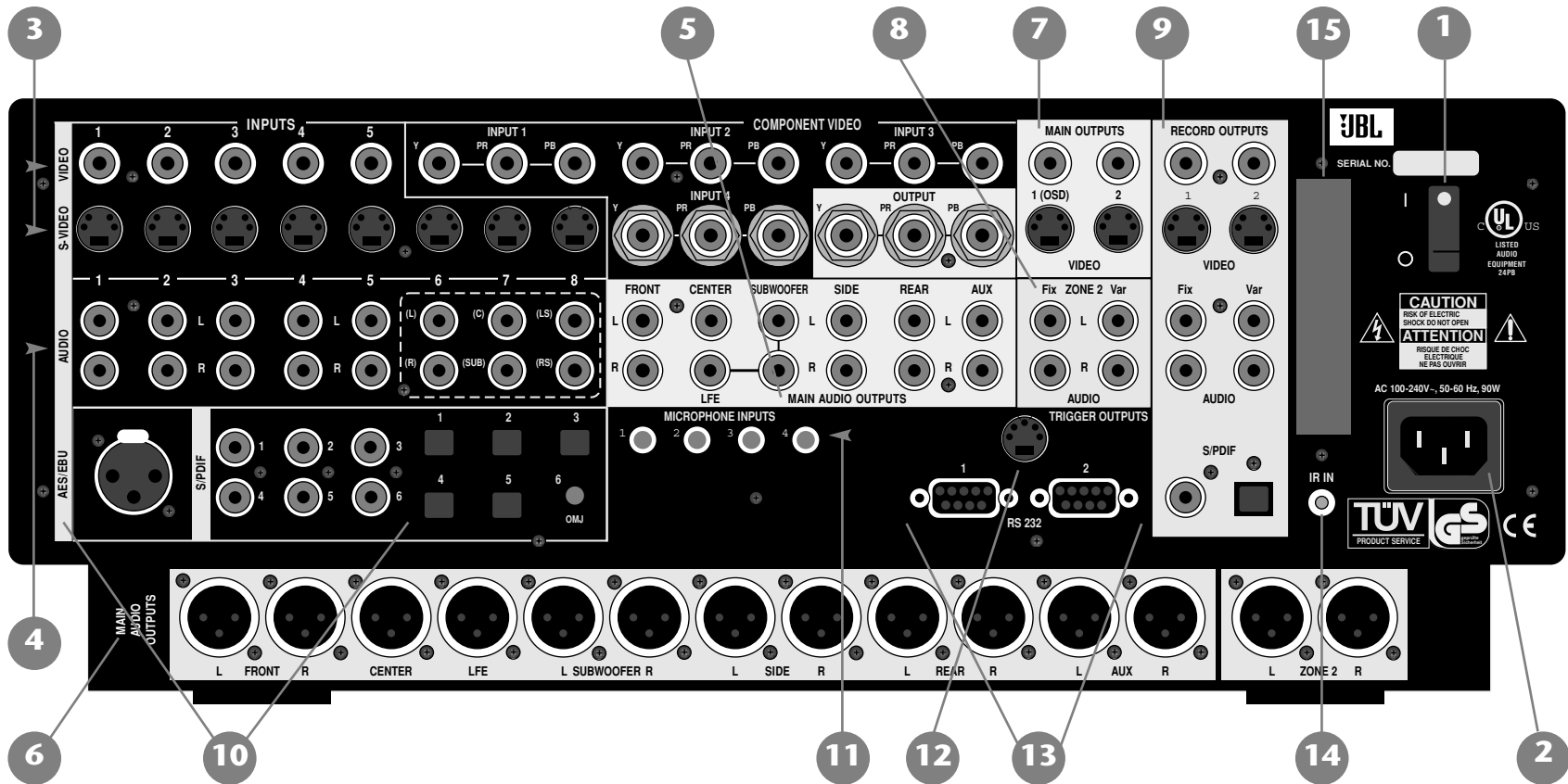
1 The **Power Switch** disconnects power to the AC input connector.

2 The **AC Input Connector** provides power to the unit via the supplied power cord (3 wire, 10 amp, IEC 320).

3 The **VIDEO INPUTS** provide video input in the Main and Record Zones. Eight S-video, five composite video, and four component video inputs are available in the Main Zone. All can be assigned in the INPUT SETUP menu (see page 3-3). S-video and composite video inputs are available in the Record Zone.

4 The **AUDIO INPUTS** provide analog audio input in all zones. Eight stereo analog input pairs labeled 1 to 8 are available. Pairs 6, 7, and 8 can be configured as a 5.1-channel analog input. These pairs function as (L)/(R), (C)/(SUB), and (LS)/(RS) when the 5.1-channel analog input is selected (see page 3-30).

5 The **MAIN AUDIO OUTPUTS** provide analog audio output in the Main Zone. Ten outputs labeled FRONT L/R, CENTER, LFE, SUBWOOFER L/R, SIDE L/R, and REAR L/R are available. The AUX L/R outputs are reserved for future expansion.

6 The balanced **MAIN and ZONE 2 AUDIO OUTPUTS** provide analog audio output in the Main Zone and Zone 2. Ten outputs labeled FRONT L/R, CENTER, LFE, SUBWOOFER L/R, SIDE L/R, and REAR L/R are available in the Main Zone. The AUX L/R outputs are reserved for future expansion. Two connectors labeled ZONE 2 L/R are available as a variable stereo output for Zone 2.

7 The **MAIN VIDEO OUTPUTS** provide video output in the Main Zone. One component (BNC), two composite, and two S-video outputs are available. The component video output is only available when component video inputs are used. Composite video outputs are available when composite or S-video inputs are used. S-video outputs are only available when S-video inputs are used. Output 1 (OSD) incorporates the on-screen display; output 2 does not.

8 The **ZONE 2 AUDIO OUTPUTS** provide analog audio output in Zone 2. Two stereo outputs (one fixed, one variable) are available. The variable output includes a built-in volume control; the fixed output does not.

9 The **RECORD AUDIO and VIDEO OUTPUTS** provide audio and video output in the Record Zone. Two composite, two S-video, two analog stereo (one fixed, one variable), one S/PDIF coaxial, and one S/PDIF optical outputs are available.

Note:

When analog input sources are used, the ZONE 2 and RECORD AUDIO OUTPUTS are about 2dB higher than the MAIN AUDIO OUTPUTS labelled FRONT L/R. When digital input sources are used, the ZONE 2 and RECORD AUDIO OUTPUTS are about 8dB higher than the MAIN AUDIO OUTPUTS labelled FRONT L/R. This is to accommodate THX level requirements.

---

10 The **AES/EBU and S/PDIF INPUTS** provide digital audio input. One AES/EBU, six S/PDIF coaxial, and six S/PDIF optical (including one optical mini jack) inputs are available.

REAR PANEL *(continued)*

11 The **MICROPHONE INPUTS** are provided for future expansion. Four 3.5mm T/R/S or balanced inputs are available.

12 The **TRIGGER OUTPUTS** provide DC output. These outputs are available on a 5-pin DIN connector. The PWR trigger is on when the unit is on, and off when the unit is in standby or off. Triggers 1 and 2 can be configured in the TRIGGER SETUP menu (see page 3-35). The default trigger settings are preconfigured for use in JBL Synthesis systems with switching transducers for cinema and music modes.

GROUND

TRIGGER 2   TRIGGER 1

GROUND   POWER TRIGGER
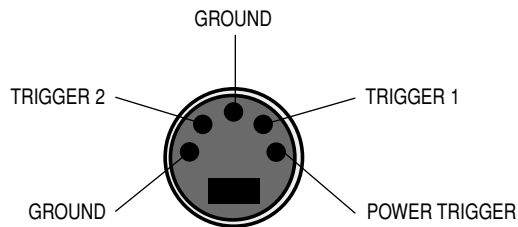
13 The **RS-232 Connector** labelled 1 is provided for serial control and software upgrades. The RS-232 connector labelled 2 is provided for future expansion.

14 The **IR IN Connector** is provided for input of infrared data from industry-standard infrared distribution equipment. A 3.5mm T/R/S input is available.

15 A **Removable Access Panel** is provided for future expansion.
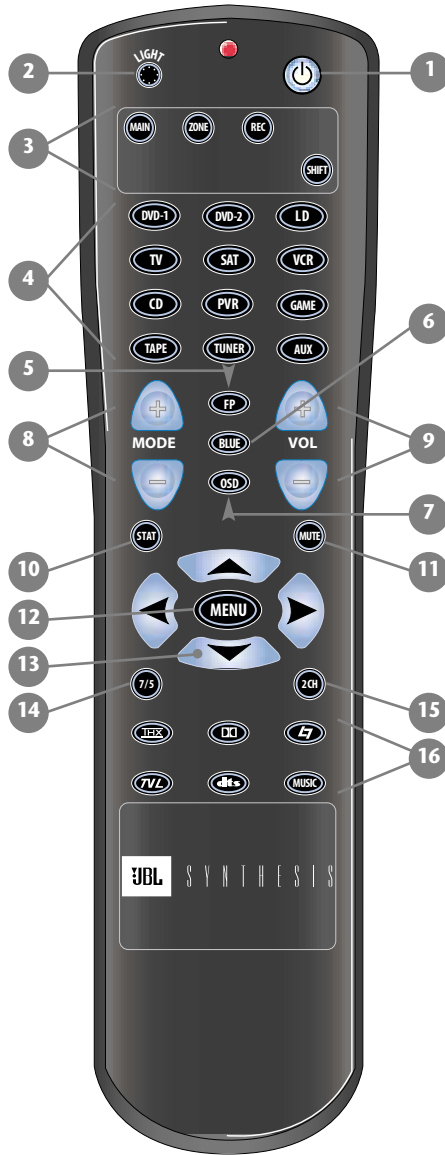
REMOTE CONTROL

The SDP-40 remote control (pictured at the left) provides full operation of the unit, executing functions such as on-screen menu navigation that are not available from the front panel. For best results, make sure the front panel IR Receiver window is not obstructed (see pages 2-2 and 2-6 for illustrations). The remote control must be in line-of-sight with this receiver for proper operation. If the unit is placed inside a glass cabinet, smoked glass will reduce the range of the remote control.

The remote control requires two AA batteries that must be changed on a regular basis. When the batteries are low on power, the remote control will enter a low-voltage condition that prevents it from operating the unit. Operation will be restored when new batteries are installed.

COMMAND BANK SELECTION

The four remote control command banks can be accessed by pressing the MAIN, ZONE, REC, or SHIFT buttons. Each button accesses a separate bank of commands until another bank is selected. Pressing a bank selection button instructs the unit to engage the selected command bank. Command bank selection buttons themselves do not send commands to the unit.

The unit indicates the last remote control command bank from which it received a command in the top-right corner of the on-screen display, provided the REMOTE STATE parameter on the ON-SCREEN DISPLAY menu is set to ON (see page 3-32). A yellow "Z" will appear when a command from the ZONE bank was received last. A red "R" will appear when a command from the REC bank was received last. A blue "S" will appear when a command from the SHIFT bank was received last. Nothing will appear when a command from the MAIN bank was received last.

The chart that begins on the next page explains the functions performed by remote control buttons when each command bank is active.

Note:

The MAIN, ZONE, REC, or SHIFT buttons should be pressed and released to access their corresponding command banks. Do not hold them down.

BANK:		MAIN	ZONE	REC	SHIFT
1 ⏻ **Standby**		Toggles the unit between on and standby. When the unit is on, pressing this button places the unit into standby and lights the red LED on the front panel standby button. When the unit is in standby, pressing this button activates all zones that were active in the previous operating session.			
2 *LIGHT* **LIGHT**		Activates the remote control backlight, making buttons more visible in the dark. The backlight also activates whenever any button is pressed, and deactivates automatically.			
3 **Bank Selection Buttons**	(MAIN)	Accesses a bank of commands that control the Main Zone.			
	(ZONE)	Accesses a bank of commands that control Zone 2 and the Main Zone.			
	(REC)	Accesses a bank of commands that control the Record and Main Zones.			
	(SHIFT)	Accesses a bank of commands that control the Main Zone.			

Note:

The buttons included on the chart above perform the same function regardless of which command bank is active.

BANK:		MAIN	ZONE	REC	SHIFT
4 Input Selection Buttons	DVD-1	Selects the input for the zone.			Deactivates the Main Zone.
	DVD-2	Selects the input for the zone.			Deactivates Zone 2.
	LD	Selects the input for the zone.			Deactivates the Record Zone.
	TV	Selects the input for the zone.			Sets LOUDNESS to ON.*
	SAT	Selects the input for the zone.			Sets LOUDNESS to OFF.*
	VCR	Selects the input for the zone.			Reserved for future expansion.
	CD	Selects the input for the zone.			Increases BASS in 0.5dB increments.*
	PVR	Selects the input for the zone.			Increases TREBLE in 0.5dB increments.*
	GAME	Selects the input for the zone.			Increases TILT EQ in 0.2dB increments.*
	TAPE	Selects the input for the zone.			Decreases BASS in 0.5dB increments.*
	TUNER	Selects the input for the zone.			Decreases TREBLE in 0.5dB increments.*
	AUX	Selects the input for the zone.			Decreases TILT EQ in 0.2dB increments.*
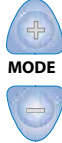
*See Section 4 for more information about these AUDIO CONTROLS menu parameters.

BANK:		MAIN	ZONE	REC	SHIFT
5 **FP**	FP	Toggles the FRONT PANEL DISPLAY menu STATUS parameter between ALWAYS OFF and its current setting (see page 3-32).	Sets Zone 2 volume to -15dB.	Sets Record Zone volume to -15dB.	Sets Main Zone volume to -15dB.
6 **BLUE**	BLUE	Toggles the ON-SCREEN DISPLAY menu BACKGROUND parameter between ON and OFF (see page 3-32).	Sets Zone 2 volume to -30dB.	Sets Record Zone volume to -30dB.	Sets Main Zone volume to -30dB.
7 **OSD**	OSD	Toggles the ON-SCREEN DISPLAY menu STATUS parameter between ALWAYS OFF and its current setting (see page 3-31).	Reserved for future expansion.	Reserved for future expansion.	Sets BASS, TREBLE, and TILT EQ to +0.0dB.*

*See Section 4 for more information about these AUDIO CONTROLS menu parameters.

BANK:	(MAIN)	(ZONE)	(REC)	(SHIFT)
8 **MODE** +/- MODE	Scroll through available listening modes in the Main Zone. Pressing the Mode + button selects the previous listening mode; pressing the Mode - button selects the next listening mode. See page 2-17 for more information about mode selection using the Mode + and - buttons.	*MODE* + Activates Trigger 1 when TRIGGER 1 is set to REMOTE in the TRIGGER SETUP menu. *MODE* - Deactivates Trigger 1 when TRIGGER 1 is set to REMOTE in the TRIGGER SETUP menu. *(See page 3-35 for more information about the TRIGGER SETUP menu.)*	*MODE* + Activates Trigger 2 when TRIGGER 2 is set to REMOTE in the TRIGGER SETUP menu. *MODE* - Deactivates Trigger 2 when TRIGGER 2 is set to REMOTE in the TRIGGER SETUP menu. *(See page 3-35 for more information about the TRIGGER SETUP menu.)*	*MODE* + Powers the unit on. *MODE* - Places the unit into standby.
9 **VOL** +/- VOL	Adjusts Main Zone volume in 1dB increments.	Adjusts Zone 2 volume in 1dB increments.	Adjusts Record Zone volume in 1dB increments.	Adjusts Main Zone volume in 3dB increments.

BANK:		(MAIN)	(ZONE)	(REC)	(SHIFT)
10 **STAT**	(STAT)	Displays the two-line status of the Main Zone for two seconds.	Displays the two-line status of Zone 2 for two seconds.	Displays the two-line status of the Record Zone for two seconds.	Toggles between accessing and exiting the STATUS menu.*
11 **MUTE**	(MUTE)	Toggles between lowering the volume level in the Main Zone, and restoring the volume to its original level.	Toggles between fully muting the volume level in Zone 2, and restoring the volume to its original level.	Toggles between fully muting the volume level in the Record Zone, and restoring the volume to its original level.	Toggles between fully muting the volume level in the Main Zone, and restoring the volume to its original level.
12 **MENU**	(MENU)	Toggles between accessing and exiting the MAIN MENU.	Centers ZONE 2 BALANCE.**	Centers RECORD BALANCE.**	Centers Main Zone BALANCE and FADER.**

See Section 5 for more information about STATUS menus.

**See Section 4 for more information about these AUDIO CONTROLS menu parameters.*

BANK:		**MAIN**	**ZONE**	**REC**	**SHIFT**
13 **MENU Arrows**	▲	Scrolls upward through menu items.	Reserved for future expansion.	Reserved for future expansion.	Adjusts Main Zone FADER forward.*
	▼	Scrolls downward through menu items.	Reserved for future expansion.	Reserved for future expansion.	Adjusts Main Zone FADER backward.*
	◄	Exits the current menu.	Adjusts ZONE2 BALANCE left.*	Adjusts RECORD BALANCE left.*	Adjusts Main Zone BALANCE left.*
	►	Selects the highlighted menu item.	Adjusts ZONE2 BALANCE right.*	Adjusts RECORD BALANCE right.*	Adjusts Main Zone BALANCE right.*
14 **7/5**	**7/5**	Toggles between 7 and 5-channel playback.	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.
15 **2CH**	**2CH**	Toggles between the selected listening mode and the 2-CHANNEL listening mode.**	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.

*See Section 4 for more information about these AUDIO CONTROLS menu parameters.

**See Section 5 for more information about listening modes.

BANK:	(MAIN)	(ZONE)	(REC)	(SHIFT)
16 (IHX) **Mode Family Selection Buttons**	Selects the THX mode family.	Reserved for future expansion.	Reserved for future expansion.	Toggles the SURROUND EX parameter ON and OFF.*
(DCI)	Selects the Dolby mode family.	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.
(L7)	Selects the LOGIC7 film mode family.	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.
(TVL)	Selects the LOGIC7 TV mode family.	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.
(dts)	Selects the dts(-ES) mode family.	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.
(MUSIC)	Selects the LOGIC7 music mode family.	Reserved for future expansion.	Reserved for future expansion.	Reserved for future expansion.

*See page 5-24 for more information about the SURROUND EX parameter.

See page 2-18 for more information about mode selection using Mode Family Selection Buttons.

UNDERSTANDING THE ZONES

The SDP-40 features three zones: the Main Zone, Zone 2, and the Record Zone. The Main Zone is designed to control audio and video signals in the primary listening space, Zone 2 is designed to control audio signals in the secondary listening space, and the Record Zone is designed to control audio and video signals for recording devices. The Record Zone can also function as a third zone, controlling audio and video signals in a third listening space.

All three zones utilitize separate digital audio receivers, analog-to-digital converters, and digital-to-analog converters. This allows independent input selection in each zone with most input types. For instance, the unit can play a DVD in the Main Zone, play a CD in Zone 2, and send signals from a satellite receiver to a VCR through the Record Zone - all at the same time.

The following exceptions apply to independent zone function:

- The same Dolby Digital or dts(-ES) input type can be selected in all zones simultaneously. However, when a Dolby Digital or dts(-ES) input type is active in the Main Zone, a different Dolby Digital or dts(-ES) input type cannot be active in Zone 2 or the Record Zone.

- Zone 2 and the Record Zone will provide a downmix (a 2-channel version of multi-channel digital audio) only when using the same input that is selected in the Main Zone.

- Use caution when switching from a Dolby Digital input type to a dts(-ES) input type in the Record Zone. A loud, brief noise may occur.

- Audio will mute for up to 2 seconds when:
  - The same input is selected in the Main Zone that is already selected in Zone 2 or the Record Zone. Likewise, when the input is deselected in the Main Zone.
  - The same input is selected in Zone 2 or the Record Zone that is already selected in the Main Zone. Likewise, when the input is deselected in Zone 2 or the Record Zone.

- When the 5.1 BYPASS listening mode is selected for the Main Zone, the same input can be utilized by Zone 2 or the Record Zone. However, only the FRONT L/R input signals will be available.

UNDERSTANDING LISTENING MODE SELECTION

There are three different methods of selecting listening modes in the Main Zone:

- The INPUT SETUP Menu
- The Mode up and down buttons on the front panel or the MODE +/- buttons on the remote control
- The Mode Family Selection Buttons on the remote control:

Listening mode selection only applies to the Main Zone.

INPUT SETUP MENU

This type of listening mode selection occurs each time a listening mode is changed in the INPUT SETUP menu, and each time an input is selected using the input selection buttons on the front panel or the remote control.

The INPUT SETUP menu can be used to select a preferred 2-channel, Dolby Digital, and dts(-ES) listening mode for each input. When an input type is recognized, the unit automatically defaults to the appropriate listening mode. (See page 3-3 for more information about the INPUT SETUP menu. See Section 5 for more information about listening modes.)

For example, the 2-CH parameter on the INPUT SETUP menu is set to LOGIC7 FILM and the DOLBY D parameter is set to 5.1 LOGIC7 MUSIC. When the input type changes from 2-channel to Dolby Digital, the listening mode will automatically change from LOGIC7 FILM to 5.1 LOGIC7 MUSIC.

MODE BUTTONS

This type of listening mode selection occurs each time the Mode Up and Down buttons are pressed on the front panel, or the MODE +/- buttons are pressed on the remote control. This type of mode scrolling allows auditioning of all listening modes available for the current input type.

Pressing the Mode Up/MODE + button selects the previous listening mode on the list. Pressing the Mode Down/MODE - button selects the next listening mode on the list. 2-channel listening modes are listed on page 3-10. Dolby Digital and dts(-ES) listening modes are listed on page 3-11. These lists are not visible on the on-screen and front panel displays during scrolling.

Note:

When the input type changes, the unit will automatically revert to the default listening modes selected in the INPUT SETUP menu. If USE LAST is selected in the INPUT SETUP menu when the input format changes, the unit will revert to the listening mode that was last used for the input type.

MODE FAMILY SELECTION BUTTONS

This type of mode selection occurs each time one of the Mode Family Selection buttons is pressed on the remote control. The matrix below shows how this type of mode selection determines the listening mode:

Input Type:	**2-CHANNEL**	**DOLBY DIGITAL**	**dts(-ES)**
(THX)	DOLBY PRO LOGIC II THX	5.1 THX SURROUND EX	dts(-ES) THX
(DD)	DOLBY PRO LOGIC II	DOLBY DIGITAL	*INPUT SETUP Menu
(L7)	LOGIC7 FILM	5.1 LOGIC7 FILM	dts(-ES) LOGIC7 FILM
(TVL)	LOGIC7 TV	5.1 LOGIC7 TV	*INPUT SETUP Menu
(dts)	*INPUT SETUP Menu	*INPUT SETUP Menu	dts(-ES)
(MUSIC)	LOGIC7 MUSIC	5.1 LOGIC7 MUSIC	dts(-ES) LOGIC7 MUSIC

*Reverts to the mode selected in the designated parameter on the INPUT SETUP menu.

Note:

Mode Family Selection will be overridden under the following conditions:

- *An input is selected using the input selection buttons on the front panel or remote control.*
- *The Mode Up and Down buttons on the front panel or the MODE +/- buttons on the remote control are pressed.*
- *The listening mode for the current input type is changed in the INPUT SETUP menu.*

3

The SETUP Menu

SETUP

```
SETUP
──────────────
INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS
```

Selecting SETUP on the MAIN MENU accesses the SETUP menu, which contains options that access available setup submenus. Use the up and down MENU arrows to scroll through the complete list of options. Press the right MENU arrow to select the highlighted option. Press the left MENU arrow to return to the MAIN MENU.

INPUTS

SETUP ▷ INPUTS

Selecting INPUTS prompts the selection of the desired input for configuration. Selecting a specific input accesses the INPUT SETUP menu, which contains options and parameters for configuring the selected input. (See page 3-3 for more information.)

SPEAKERS

SETUP ▷ SPEAKERS

Selecting SPEAKERS accesses the SPEAKER SETUP menu, which contains options to configure the MAIN AUDIO OUTPUTS. (See page 3-18 for more information.)

REAR PANEL CONFIG

SETUP ▷ REAR PANEL CONFIG

Selecting REAR PANEL CONFIG accesses the REAR PANEL CONFIG menu, which contains options that configure the function of analog input pairs 6, 7, and 8 on the rear panel. (See page 3-30 for more information.)

DISPLAYS

SETUP ▷ DISPLAYS

Selecting DISPLAYS accesses the DISPLAY SETUP menu, which contains options and parameters to adjust the on-screen and front panel displays, as well as audio-video synchronization and the customized unit name. (See page 3-31 for more information.)

VOLUME CONTROLS

SETUP ▷ VOLUME CONTROLS

Selecting VOLUME CONTROLS accesses the VOLUME CONTROL SETUP menu, which contains parameters for adjusting volume setup in the Main Zone, Zone 2, and the Record Zone. (See page 3-34 for more information.)

TRIGGERS

SETUP ▷ TRIGGERS

Selecting TRIGGERS accesses the TRIGGER SETUP menu, which contains parameters for configuring TRIGGERS 1 and 2. (See page 3-35 for more information.)

LOCK OPTIONS

SETUP ▷ LOCK OPTIONS

Selecting LOCK OPTIONS accesses the LOCK OPTIONS menu, which contains parameters for locking and unlocking the MODE ADJUST, AUDIO CONTROLS, and SETUP menus. (See page 3-36 for more information.)
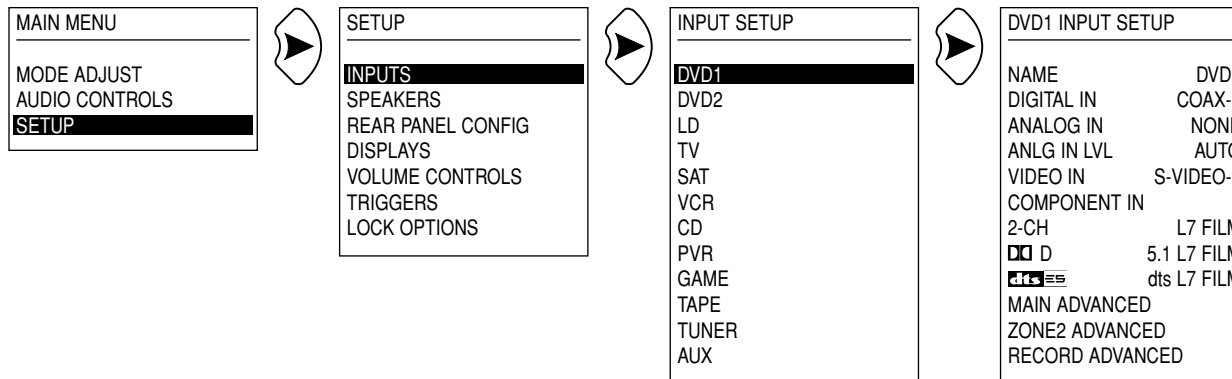
MAIN MENU		SETUP		INPUT SETUP		DVD1 INPUT SETUP	
MODE ADJUST	▶	INPUTS	▶	DVD1	▶	NAME	DVD1
AUDIO CONTROLS		SPEAKERS		DVD2		DIGITAL IN	COAX-1
SETUP		REAR PANEL CONFIG		LD		ANALOG IN	NONE
		DISPLAYS		TV		ANLG IN LVL	AUTO
		VOLUME CONTROLS		SAT		VIDEO IN	S-VIDEO-1
		TRIGGERS		VCR		COMPONENT IN	1
		LOCK OPTIONS		CD		2-CH	L7 FILM
				PVR		▣▣ D	5.1 L7 FILM
				GAME		dts ES	dts L7 FILM
				TAPE		MAIN ADVANCED	
				TUNER		ZONE2 ADVANCED	
				AUX		RECORD ADVANCED	

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

INPUT SETUP

The unit has 12 inputs, each of which can be associated with any of its 13 digital audio, 8 analog audio, and 17 video input connectors. Selecting the INPUTS option on the SETUP menu prompts the selection of the desired input for configuration. Selecting an input accesses the INPUT SETUP menu.

The DVD1 INPUT SETUP menu is used as an example above, and will continue to be used as an example throughout this section. The parameters on the left side of the INPUT SETUP menu are identical regardless of which input is selected. The values on the right side of the menu are adjustable. (See page A-6 for an illustration of all INPUT SETUP menus.)

MAIN MENU		SETUP		INPUT SETUP		DVD1 INPUT SETUP		DVD1 INPUT NAME

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

INPUT SETUP

DVD1
DVD2
LD
TV
SAT
VCR
CD
PVR
GAME
TAPE
TUNER
AUX

DVD1 INPUT SETUP

NAME   DVD1
DIGITAL IN   COAX-1
ANALOG IN   NONE
ANLG IN LVL   AUTO
VIDEO IN   S-VIDEO-1
COMPONENT IN   1
2-CH   L7 FILM
⫿⫿ D   5.1 L7 FILM
dts≡S   dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED

DVD1 INPUT NAME

EDIT INPUT NAME
RESTORE DEFAULT NAME

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

NAME

SETUP ▷ **INPUTS** ▷ **DVD1** ▷ **NAME**

Selecting NAME accesses the INPUT NAME menu, which can be used to customize and restore input names.

EDIT INPUT NAME

EDIT INPUT NAME allows the customization of input names. Selecting this option accesses the pulldown menu pictured at the right.

DVD1 INPUT NAME

EDIT INPUT NAME
DVD1
^

↑ ↓ BUTTONS TO EDIT
   UP TO 8 CHARACTERS
→ BUTTON TO ADVANCE
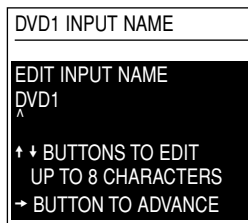
Use the up and down MENU arrows to change the character above the ^. Up to eight characters (including blank spaces) can be entered. Use the right MENU arrow to advance to the next character. The ^ will automatically wrap to the first character space after the eighth character space is passed. When finished, press the left MENU arrow to close the pulldown menu.

The input name will change on the on-screen and front panel displays. However, the input name will not change on the INPUT SETUP menu that prompts the selection of the desired input for configuration (pictured above, third menu from the left).

RESTORE DEFAULT NAME

RESTORE DEFAULT NAME restores the factory-default name of the selected input. Factory-default names correspond to the labels on the front panel and remote control. Selecting this option accesses a pulldown menu that reads "PRESS MENU → TO RESTORE INPUT NAME." Press the right MENU arrow to restore the factory-default name of the selected input. Press the left MENU arrow to exit the pulldown menu without restoring the factory-default name of the selected input.
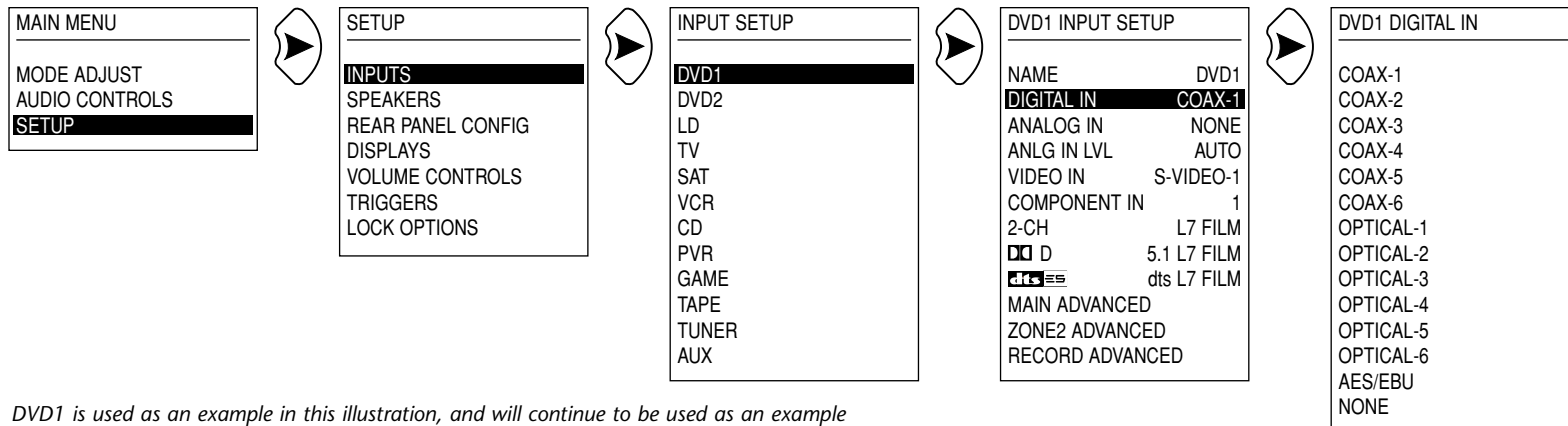
MAIN MENU		SETUP		INPUT SETUP		DVD1 INPUT SETUP		DVD1 DIGITAL IN
MODE ADJUST	▷	INPUTS	▷	DVD1	▷	NAME DVD1	▷	COAX-1
AUDIO CONTROLS		SPEAKERS		DVD2		DIGITAL IN COAX-1		COAX-2
SETUP		REAR PANEL CONFIG		LD		ANALOG IN NONE		COAX-3
		DISPLAYS		TV		ANLG IN LVL AUTO		COAX-4
		VOLUME CONTROLS		SAT		VIDEO IN S-VIDEO-1		COAX-5
		TRIGGERS		VCR		COMPONENT IN 1		COAX-6
		LOCK OPTIONS		CD		2-CH L7 FILM		OPTICAL-1
				PVR		▱ D 5.1 L7 FILM		OPTICAL-2
				GAME		dts ES dts L7 FILM		OPTICAL-3
				TAPE		MAIN ADVANCED		OPTICAL-4
				TUNER		ZONE2 ADVANCED		OPTICAL-5
				AUX		RECORD ADVANCED		OPTICAL-6
								AES/EBU
								NONE

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

DIGITAL IN

SETUP ▷ **INPUTS** ▷ **DVD1** ▷ **DIGITAL IN**

Selecting DIGITAL IN accesses the DIGITAL IN menu, which can be used to assign the digital connector for the selected input. Digital input selection will take precedence over analog input selection unless:

- No valid digital input signal is present.
- The DIGITAL IN parameter is set to NONE.
- The INPUT SELECT parameter on the MAIN ADV menu is set to ANALOG (see page 3-13).

Note:

When DIGITAL IN is set to NONE, the INPUT SELECT parameter on the MAIN ADV menu is automatically set to ANALOG (see page 3-13).

When a connector is selected for both the DIGITAL IN and ANALOG IN parameters, all INPUT SELECT parameters will automatically be set to AUTO. The INPUT SELECT parameters are located on the MAIN ADV, ZONE 2 ADV, and REC ADV menus (see pages #-# to #-#).

MAIN MENU	SETUP	INPUT SETUP	DVD1 INPUT SETUP	DVD1 ANALOG IN
MODE ADJUST	**INPUTS**	**DVD1**	NAME DVD1	ANALOG-1
AUDIO CONTROLS	SPEAKERS	DVD2	DIGITAL IN COAX-1	ANALOG-2
SETUP	REAR PANEL CONFIG	LD	**ANALOG IN NONE**	ANALOG-3
	DISPLAYS	TV	ANLG IN LVL AUTO	ANALOG-4
	VOLUME CONTROLS	SAT	VIDEO IN S-VIDEO-1	ANALOG-5
	TRIGGERS	VCR	COMPONENT IN 1	ANALOG-6 *
	LOCK OPTIONS	CD	2-CH L7 FILM	ANALOG-7 *
		PVR	▣ D 5.1 L7 FILM	ANALOG-8 *
		GAME	dts≡S dts L7 FILM	NONE
		TAPE	MAIN ADVANCED	
		TUNER	ZONE2 ADVANCED	
		AUX	RECORD ADVANCED	

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

* *When REAR PANEL CONFIG is set to 5 STEREO & 5.1 ANLG (see page 3-30), 5.1 ANALOG will appear in place of these menu items.*

ANALOG IN

SETUP ▷ INPUTS ▷ DVD1 ▷ **ANALOG IN**

Selecting ANALOG IN accesses the ANALOG IN menu, which can be used to assign the analog input connector for the selected input. The appearance of the ANALOG IN menu depends on the REAR PANEL CONFIG setting (see page 3-30). When 8 STEREO INPUTS is selected on the REAR PANEL CONFIG menu, the ANALOG IN menu will appear as it does in the illustration above. When 5 STEREO & 5.1 ANLG is selected on the REAR PANEL CONFIG menu, ANALOG-6, 7, and 8 on the ANALOG IN menu will be replaced with 5.1 ANALOG.

Note:

When ANALOG IN is set to NONE, the INPUT SELECT parameter on the MAIN ADV menu is automatically set to DIGITAL (see page 3-13).

ANLG IN LVL

SETUP ▷ INPUTS ▷ DVD1 ▷ **ANLG IN LVL**

Selecting ANLG IN LVL accesses the ANLG IN LVL menu, which can be used to adjust analog input levels. Despite industry attempts at standardization, analog sources have a wide range of output levels. To compensate for this, each of the eight analog inputs on the unit can be assigned a different analog input level. This assures optimum performance regardless of source.

Parameter	Default Value	Values
AUTO	ON	ON, OFF
MANUAL	+0dB	-18 to +12dB

AUTO   (ON, OFF)

AUTO provides automatic control of analog input levels. When set to ON, the unit monitors and automatically optimizes analog input
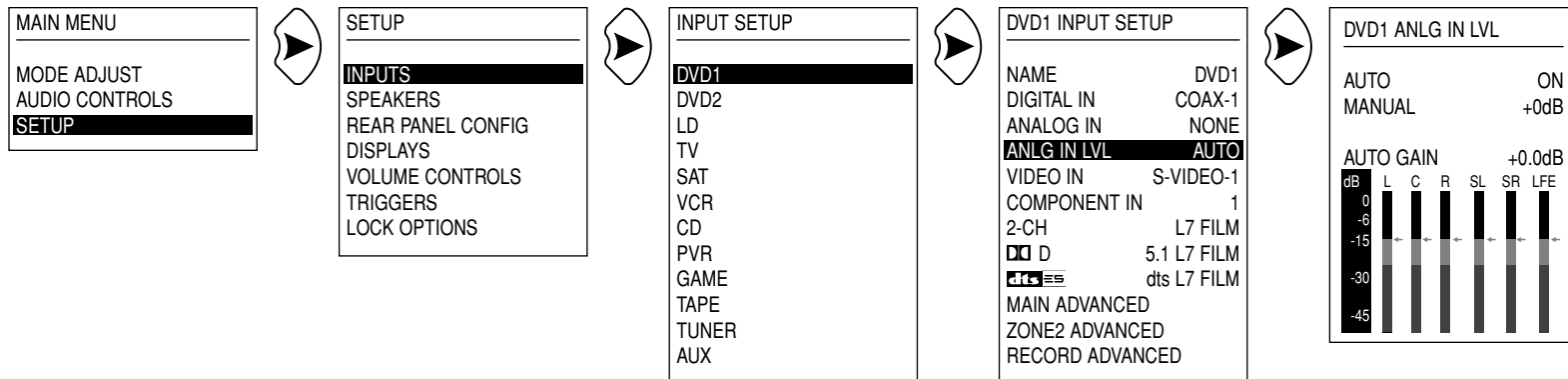
DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

---

levels. When the signal is too high, ANLG IN LVL is quickly decreased to avoid overload. When the signal is too low, ANLG IN LVL is slowly increased to maximize the signal-to-noise ratio and dynamic range. The AUTO parameter setting will never exceed the current MANUAL parameter setting. The current AUTO parameter setting is shown in the INPUT GAIN parameter. When the AUTO parameter is set to OFF, the ANLG IN LVL parameter can be adjusted manually.

MANUAL   (-18 to +12dB)

MANUAL provides manual adjustment of analog input levels in the Main Zone when the AUTO parameter is set to OFF. When MANUAL is selected, a white horizontal bar graph will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the -18 to +12dB parameter range. Press the up and down MENU arrows to increase and decrease the setting in 1dB increments. Press the left MENU arrow to close the graph and return to the ANLG IN LVL menu.

The current setting is shown in the MANUAL and INPUT GAIN parameters. When switching from AUTO to MANUAL adjustment, the INPUT GAIN parameter will continue to reflect the last AUTO setting until the MANUAL setting is adjusted.

The level meters in the lower-left corner indicate fluctuating input levels in the left (L) and right (R) channels. These meters indicate signal levels for the selected input, whether the input signal is analog or digital. For example, if the input signal is digital only, the level meters will indicate the digital input signal levels.

These level meters appear in combinations of green, yellow, and red on the blue-screen background. Green indicates normal input levels; yellow indicates the onset of overload; and red indicates overload. The yellow arrow to the right of each bar indicates the current input peak level. The INPUT GAIN parameter also shows the current input level, whether AUTO or MANUAL is selected.
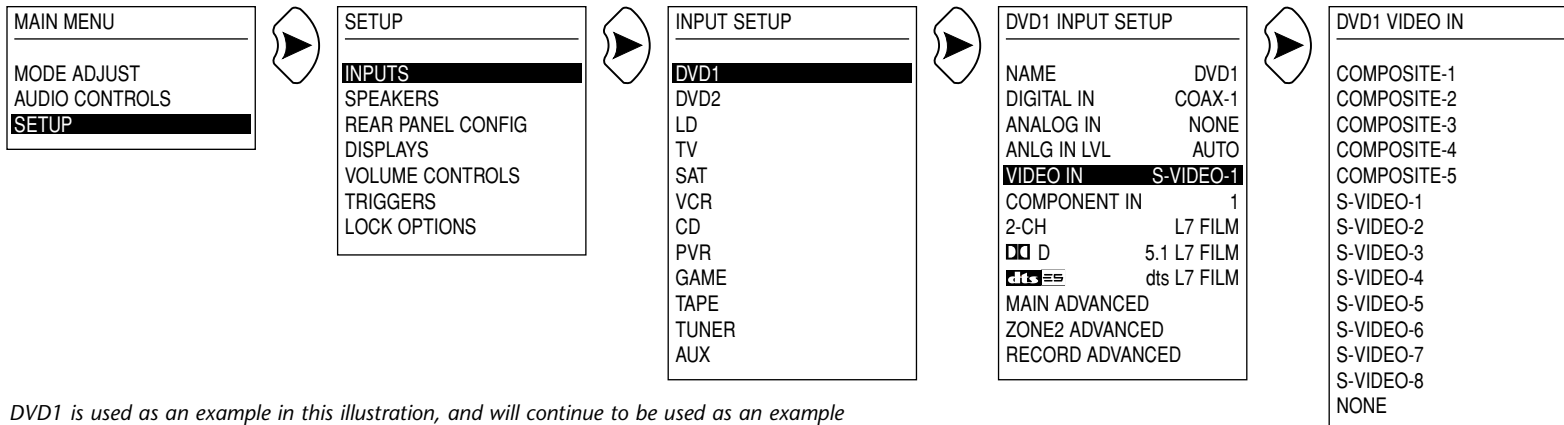
MAIN MENU	SETUP	INPUT SETUP	DVD1 INPUT SETUP	DVD1 VIDEO IN
MODE ADJUST	INPUTS	DVD1	NAME DVD1	COMPOSITE-1
AUDIO CONTROLS	SPEAKERS	DVD2	DIGITAL IN COAX-1	COMPOSITE-2
SETUP	REAR PANEL CONFIG	LD	ANALOG IN NONE	COMPOSITE-3
	DISPLAYS	TV	ANLG IN LVL AUTO	COMPOSITE-4
	VOLUME CONTROLS	SAT	VIDEO IN S-VIDEO-1	COMPOSITE-5
	TRIGGERS	VCR	COMPONENT IN 1	S-VIDEO-1
	LOCK OPTIONS	CD	2-CH L7 FILM	S-VIDEO-2
		PVR	DⅮ D 5.1 L7 FILM	S-VIDEO-3
		GAME	dts⧉ᴇs dts L7 FILM	S-VIDEO-4
		TAPE	MAIN ADVANCED	S-VIDEO-5
		TUNER	ZONE2 ADVANCED	S-VIDEO-6
		AUX	RECORD ADVANCED	S-VIDEO-7
				S-VIDEO-8
				NONE

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

VIDEO IN

SETUP ▷ INPUTS ▷ DVD1 ▷ VIDEO IN

Selecting VIDEO IN accesses the VIDEO IN menu, which can be used to select the composite video or S-video connector associated with the selected input.

Note:

Composite video outputs are available when composite or S-video inputs are used. S-video outputs are only available when S-video inputs are used. Output 1 (OSD) incorporates the on-screen display; output 2 does not.

```
MAIN MENU              SETUP                INPUT SETUP          DVD1 INPUT SETUP           DVD1 COMPONENT

MODE ADJUST            INPUTS               DVD1                 NAME            DVD1       COMPONENT 1
AUDIO CONTROLS         SPEAKERS             DVD2                 DIGITAL IN    COAX-1       COMPONENT 2
SETUP                  REAR PANEL CONFIG    LD                   ANALOG IN       NONE       COMPONENT 3
                       DISPLAYS             TV                   ANLG IN LVL     AUTO       COMPONENT 4
                       VOLUME CONTROLS      SAT                  VIDEO IN    S-VIDEO-1
                       TRIGGERS             VCR                  COMPONENT IN       1
                       LOCK OPTIONS         CD                   2-CH         L7 FILM
                                            PVR                  DD D      5.1 L7 FILM
                                            GAME                 dts ES    dts L7 FILM
                                            TAPE                 MAIN ADVANCED
                                            TUNER                ZONE2 ADVANCED
                                            AUX                  RECORD ADVANCED
```
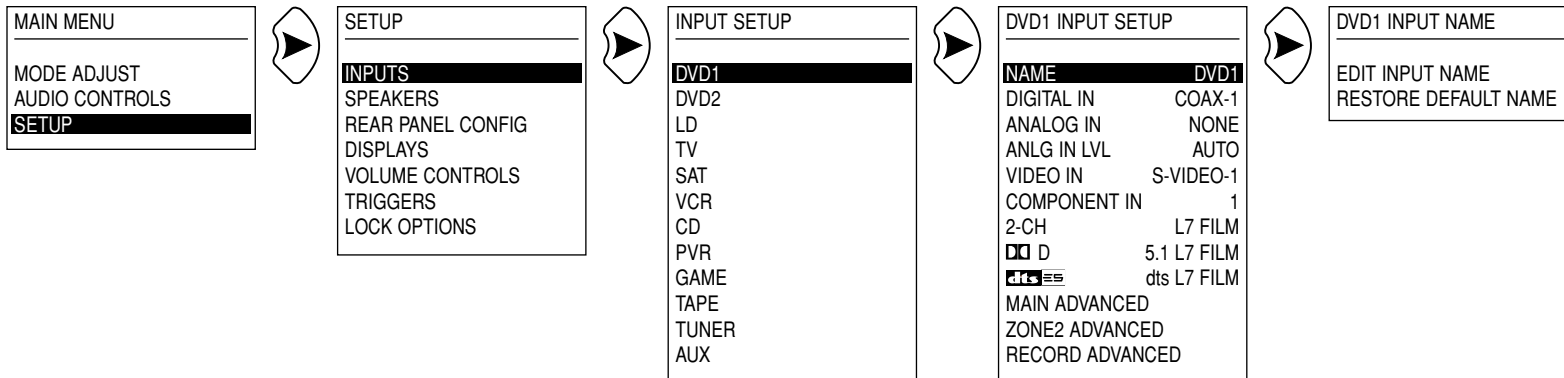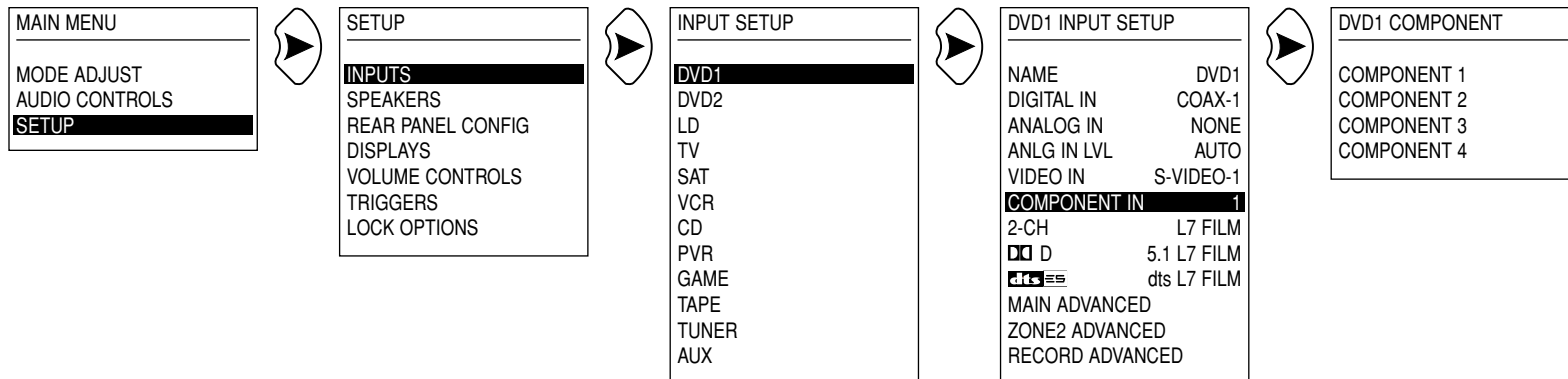
DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

COMPONENT IN

SETUP ▷ **INPUTS** ▷ **DVD1** ▷ **COMPONENT IN**

Selecting COMPONENT IN accesses the COMPONENT IN menu, which can be used to select the component video connectors associated with the selected input.

Note:

The component video output is only available when component video inputs are used.
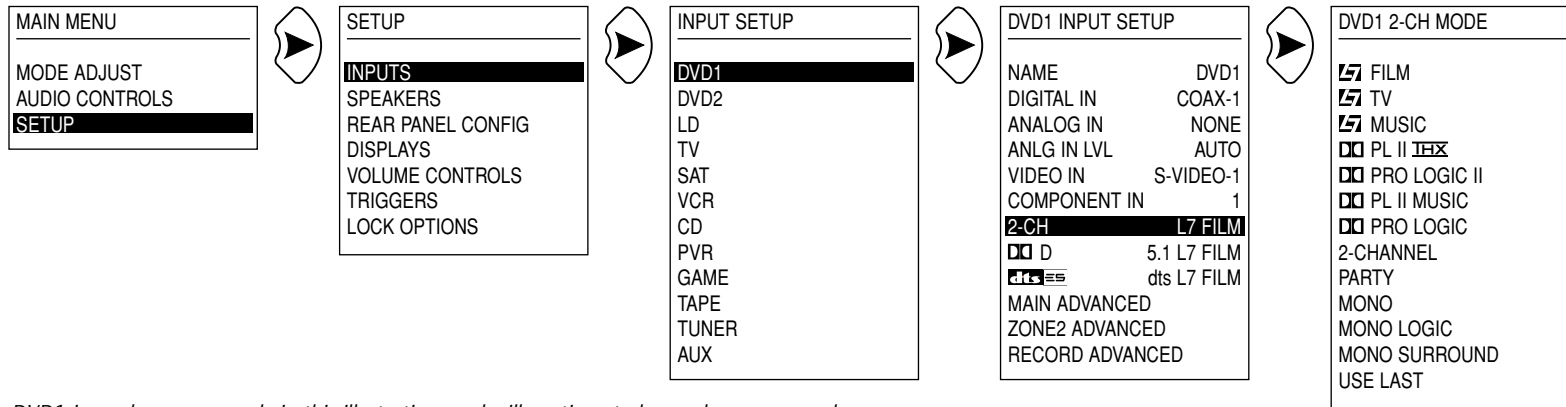
MAIN MENU		SETUP		INPUT SETUP		DVD1 INPUT SETUP		DVD1 2-CH MODE
MODE ADJUST	▶	**INPUTS**	▶	**DVD1**	▶	NAME DVD1	▶	⑤ FILM
AUDIO CONTROLS		SPEAKERS		DVD2		DIGITAL IN COAX-1		⑤ TV
SETUP		REAR PANEL CONFIG		LD		ANALOG IN NONE		⑤ MUSIC
		DISPLAYS		TV		ANLG IN LVL AUTO		▯▯ PL II THX
		VOLUME CONTROLS		SAT		VIDEO IN S-VIDEO-1		▯▯ PRO LOGIC II
		TRIGGERS		VCR		COMPONENT IN 1		▯▯ PL II MUSIC
		LOCK OPTIONS		CD		**2-CH L7 FILM**		▯▯ PRO LOGIC
				PVR		▯▯ D 5.1 L7 FILM		2-CHANNEL
				GAME		dts ES dts L7 FILM		PARTY
				TAPE		MAIN ADVANCED		MONO
				TUNER		ZONE2 ADVANCED		MONO LOGIC
				AUX		RECORD ADVANCED		MONO SURROUND
								USE LAST

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.
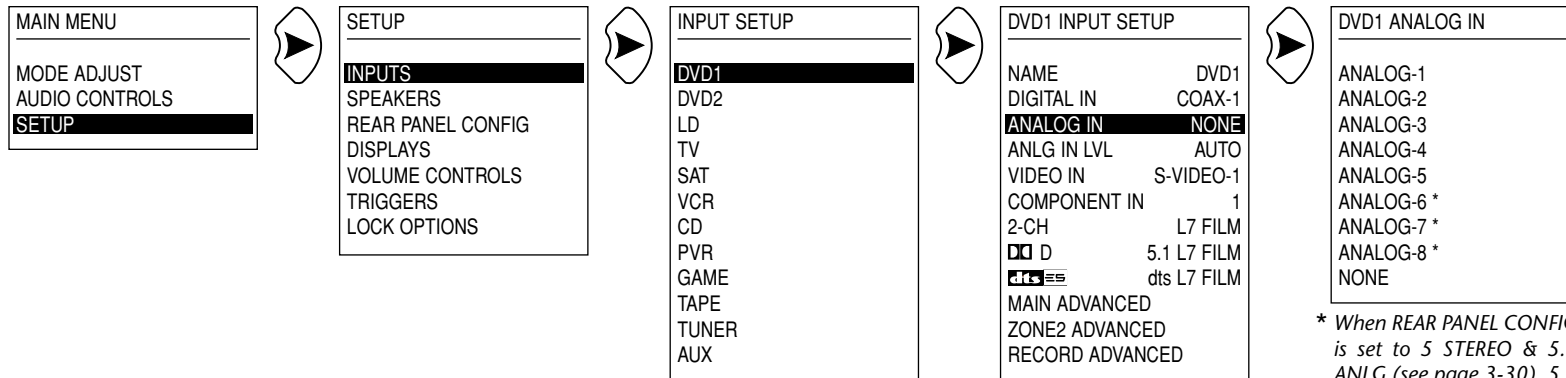
2-CH

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **2-CH**

Selecting 2-CH accesses the 2-CH MODE menu (pictured above), which can be used to select the listening mode for 2-channel input types. Listening modes are explained in further detail in Section 5.

Note:

When the 2-CH parameter is set to USE LAST, pressing the 2CH button on the remote control selects the 2-CHANNEL listening mode. However, pressing the 2CH button again does not select the previous listening mode. To deselect the 2-CHANNEL listening mode, press another mode family selection button on the remote control or reselect the input. (See page 2-# for more information about the 2CH button.)

DOLBY D

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **▯▯ D**

Selecting DOLBY D accesses the DOLBY D MODE menu (pictured on the top of the next page), which can be used to select the listening mode for Dolby Digital input types. Listening modes are explained in further detail in Section 5.

dts(-ES)

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **dts ES**

Selecting dts(-ES) accesses the dts(-ES) MODE menu (pictured on the bottom of the next page), which can be used to select the listening mode for dts(-ES) input types. Listening modes are explained in further detail in Section 5.

MAIN MENU		SETUP		INPUT SETUP		DVD1 INPUT SETUP		DVD1 ◻◻ D MODE
	▶		▶		▶		▶	
MODE ADJUST		**INPUTS**		**DVD1**		NAME DVD1		5.1 ⎚ FILM
AUDIO CONTROLS		SPEAKERS		DVD2		DIGITAL IN COAX-1		5.1 ⎚ TV
SETUP		REAR PANEL CONFIG		LD		ANALOG IN NONE		5.1 ⎚ MUSIC
		DISPLAYS		TV		ANLG IN LVL AUTO		5.1 THX SUR EX
		VOLUME CONTROLS		SAT		VIDEO IN S-VIDEO-1		◻◻ DIGITAL
		TRIGGERS		VCR		COMPONENT IN 1		5.1 2-CHANNEL
		LOCK OPTIONS		CD		2-CH L7 FILM		5.1 MONO
				PVR		**◻◻ D 5.1 L7 FILM**		5.1 MONO LOGIC
				GAME		dts⎚ dts L7 FILM		5.1 MONO SURR
				TAPE		MAIN ADVANCED		USE LAST
				TUNER		ZONE2 ADVANCED		
				AUX		RECORD ADVANCED		

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

MAIN MENU		SETUP		INPUT SETUP		DVD1 INPUT SETUP		DVD1 dts⎚ MODE
	▶		▶		▶		▶	
MODE ADJUST		**INPUTS**		**DVD1**		NAME DVD1		dts⎚ ⎚ FILM
AUDIO CONTROLS		SPEAKERS		DVD2		DIGITAL IN COAX-1		dts⎚ ⎚ MUSIC
SETUP		REAR PANEL CONFIG		LD		ANALOG IN NONE		dts⎚ THX
		DISPLAYS		TV		ANLG IN LVL AUTO		dts⎚
		VOLUME CONTROLS		SAT		VIDEO IN S-VIDEO-1		dts⎚ 2-CHAN
		TRIGGERS		VCR		COMPONENT IN 1		USE LAST
		LOCK OPTIONS		CD		2-CH L7 FILM		
				PVR		◻◻ D 5.1 L7 FILM		
				GAME		**dts⎚ dts L7 FILM**		
				TAPE		MAIN ADVANCED		
				TUNER		ZONE2 ADVANCED		
				AUX		RECORD ADVANCED		

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

```
MAIN MENU              SETUP                 INPUT SETUP          DVD1 INPUT SETUP          DVD1 MAIN ADV
────────────           ────────────          ────────────         ──────────────           ──────────────
MODE ADJUST            INPUTS                DVD1                 NAME          DVD1        INPUT SELECT    DIGITAL
AUDIO CONTROLS         SPEAKERS              DVD2                 DIGITAL IN    COAX-1      ANALOG BYPASS      OFF
SETUP                  REAR PANEL CONFIG     LD                   ANALOG IN      NONE       S-VIDEO 16:9      AUTO
                       DISPLAYS              TV                   ANLG IN LVL    AUTO       S-VIDEO OSD 4:3     ON
                       VOLUME CONTROLS       SAT                  VIDEO IN  S-VIDEO-1       COMPONENT OSD      OFF
                       TRIGGERS              VCR                  COMPONENT IN      1
                       LOCK OPTIONS          CD                   2-CH         L7 FILM
                                             PVR                  ▣ D       5.1 L7 FILM
                                             GAME                 dts≡S       dts L7 FILM
                                             TAPE                 MAIN ADVANCED
                                             TUNER                ZONE2 ADVANCED
                                             AUX                  RECORD ADVANCED
```

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

MAIN ADVANCED

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED

Selecting MAIN ADVANCED accesses the MAIN ADV menu, which can be used to configure advanced settings in the Main Zone.

Parameter	Default Value	Values
INPUT SELECT	DIGITAL	AUTO, ANALOG, DIGITAL
ANALOG BYPASS	OFF	ON, OFF
S-VIDEO 16:9	AUTO	AUTO, OFF
S-VIDEO 4:3 OSD	ON	ON, OFF
COMPONENT OSD	OFF	ON, OFF

Note:

The unit will automatically select the 5.1 BYPASS listening mode when all of the following conditions are met:

- *5 STEREO & 5.1 ANLG is selected on the REAR PANEL CONFIG menu (see page 3-30).*

- *The ANALOG IN parameter on the INPUT SETUP menu is set to 5.1 ANALOG (see page 3-6).*

- *The INPUT SELECT parameter on the MAIN ADV menu is set to either AUTO or ANALOG. When set to AUTO, no digital input types can be present.*

- *The ANALOG BYPASS parameter on the MAIN ADV menu is set to ON.*

INPUT SELECT   (AUTO, ANALOG, DIGITAL)

The INPUT SETUP menu allows the selection of two audio connector types - one analog, one digital. INPUT SELECT specifies how these connectors interact. The following settings are available:

- The **DIGITAL** setting forces the unit to utilize the DIGITAL IN connector for the Main Zone. If an ANALOG IN connector is also selected, it will be ignored. The unit will mute when an invalid digital audio input type is received. Valid digital audio input types include PCM, Dolby Digital, and dts(-ES). The DIGITAL setting will automatically be selected when the ANALOG IN parameter on the INPUT SETUP menu is set to NONE (see page 3-6).

- The **ANALOG** setting forces the unit to utilize the selected ANALOG IN connector for the Main Zone. If a DIGITAL IN connector is also selected, it will be ignored. The ANALOG setting will automatically be selected when the DIGITAL IN parameter on the INPUT SETUP menu is set to NONE (see page 3-5).

- The **AUTO** setting allows the unit to switch between the selected DIGITAL IN and ANALOG IN connectors. The DIGITAL IN connector is utilized when a valid digital audio input type is present. When invalid digital audio input types are received, the unit automatically switches to the ANALOG IN connector. INPUT SELECT will automatically be set to AUTO when a connect or selected for both the DIGITAL IN and ANALOG IN parameters. This setting is recommended for input sources that utilize both digital and analog audio input types, such as a laser disc player.

Note:

Some sources supply valid digital audio input types that remain active even when no audio is present in the signal. Because the unit recognizes these as valid digital audio input types, it will not switch to the ANALOG IN connector. For these sources, it is recommended to configure two different inputs - one for digital audio input types, and a second for analog audio input types.

ANALOG BYPASS   (ON, OFF)

ANALOG BYPASS allows analog input types to bypass analog-to-digital conversion and internal processing. When set to ON, the unit passes the analog input signal to the corresponding analog outputs.

For stereo analog sources, the input is sent to the FRONT L/R outputs. For a 5.1-channel analog source, the (L) input is sent to the FRONT L output. The (R) input is sent to the FRONT R output. The (C) input is sent to the CENTER output. The (SUB) input is sent to the SUBWOOFER L/R and LFE outputs. The (LS) input is sent to the SIDE and REAR L outputs. The (RS) input is sent to the SIDE and REAR R outputs.

Note:

It is not possible to record from an analog input source on the S/PDIF outputs when the Main Zone is utilizing the 5.1-channel analog input.

MAIN ADVANCED *(continued)*

SETUP ▷ INPUTS ▷ DVD1 ▷ **MAIN ADVANCED**

ANALOG BYPASS *(continued)*   (ON, OFF)

When ANALOG BYPASS is set to OFF, the unit routes the analog input signal through analog-to-digital conversion, internal processing, and digital-to-analog conversion. This makes it possible to utilize internal processing, including listening modes, crossovers, and equalization.

Neither Zone 2 nor the Record Zone provide multi-channel outputs. If the 5.1-channel analog input is selected for Zone 2 or the Record Zone, only the front left and right (L)/(R) inputs will be available.

S-VIDEO 16:9   (AUTO, OFF)

S-VIDEO 16:9 controls the passage of anamorphic video trigger signals. When set to AUTO, the unit allows anamorphic trigger signals to pass through the S-video switcher. This enables compatible display devices to automatically switch between anamorphic and non-anamorphic display modes. When set to OFF, the unit prevents anamorphic trigger signals from passing through the S-video switcher. This disables compatible display devices from switching between anamorphic and non-anamorphic display modes.

S-VIDEO OSD 4:3   (ON, OFF)

S-VIDEO OSD 4:3 controls the appearance of the on-screen display. When set to ON, the on-screen display utilizing the S-video output is displayed in a 4:3 aspect ratio regardless of the aspect ratio of the incoming signal. When set to OFF, the on-screen display utilizing the S-video output is displayed in the same aspect ratio as the incoming signal.

Note:

The menu will appear horizontally stretched across the entire screen if the following conditions are met:

- *The S-VIDEO OSD 4:3 parameter is set to OFF.*
- *An anamorphic trigger signal is present.*
- *The on-screen display is shown on a 16:9 display device.*

COMPONENT OSD   (ON, OFF)

COMPONENT OSD activates and deactivates the on-screen display, provided the display device is utilizing the COMPONENT VIDEO OUTPUT. When set to ON, the COMPONENT VIDEO OUTPUT displays the on-screen menus as a 480i video signal on a full blue-screen background. The component on-screen display includes the two-line status. When set to OFF, the component on-screen display is deactivated. The component on-screen display will be automatically deactivated when the BACKGROUND parameter on the ON-SCREEN DISPLAY menu is set to OFF (see page 3-32).

ZONE2 ADVANCED

SETUP ▷ INPUTS ▷ DVD1 ▷ **ZONE2 ADVANCED**

Selecting ZONE2 ADVANCED accesses the ZONE 2 ADV menu, which can be used to configure advanced settings in Zone 2.

Parameter	Default Value	Values
INPUT SELECT	DIGITAL	AUTO, ANALOG, DIGITAL
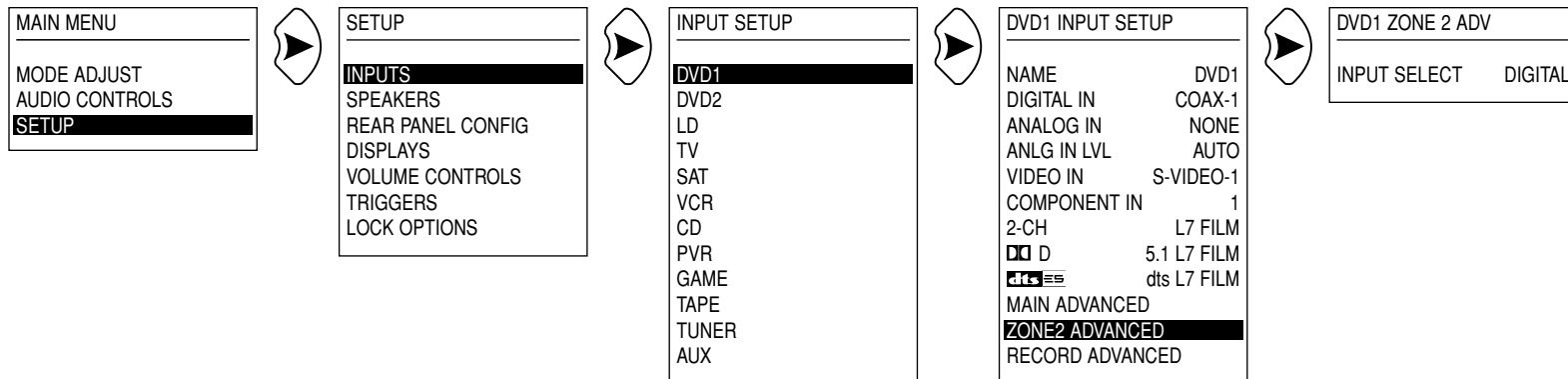
MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

INPUT SETUP

DVD1
DVD2
LD
TV
SAT
VCR
CD
PVR
GAME
TAPE
TUNER
AUX

DVD1 INPUT SETUP

NAME   DVD1
DIGITAL IN   COAX-1
ANALOG IN   NONE
ANLG IN LVL   AUTO
VIDEO IN   S-VIDEO-1
COMPONENT IN   1
2-CH   L7 FILM
D   5.1 L7 FILM
dts ES   dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED

DVD1 ZONE 2 ADV

INPUT SELECT   DIGITAL

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

INPUT SELECT (AUTO, ANALOG, DIGITAL)

The INPUT SETUP menu allows the selection of two audio connector types - one analog, one digital. INPUT SELECT specifies how these connectors interact. The following settings are available:

• The **DIGITAL** setting forces the unit to utilize the DIGITAL IN connector for Zone 2. If an ANALOG IN connector is also selected, it will be ignored. The unit will mute when an invalid digital audio input type is received. Valid digital audio input types include PCM, Dolby Digital, and dts(-ES). See page 2-16 for more information about using the DIGITAL setting in multiple zones.

• The **ANALOG** setting forces the unit to utilize the selected ANALOG IN connector for Zone 2. If a DIGITAL IN connector is also selected, it will be ignored.

• The **AUTO** setting allows the unit to switch between the selected DIGITAL IN and ANALOG IN connectors. The

DIGITAL IN connector is utilized when a valid digital audio input type is present. When invalid digital audio input types are received, the unit automatically switches to the ANALOG IN connector. INPUT SELECT will automatically be set to AUTO when a connect or selected for both the DIGITAL IN and ANALOG IN parameters. This setting is recommended for input sources that utilize both digital and analog audio input types, such as a laser disc player.

Note:

Some sources supply valid digital audio input types that remain active even when no audio is present in the signal. Because the unit recognizes these as valid digital audio input types, it will not switch to the ANALOG IN connector. For these sources, it is recommended to configure two different inputs - one for digital audio input types, and a second for analog audio input types.

```
MAIN MENU            ⊳    SETUP                ⊳    INPUT SETUP          ⊳    DVD1 INPUT SETUP          ⊳    DVD1 RECORD ADV

MODE ADJUST               INPUTS                    DVD1                      NAME            DVD1            INPUT SELECT     DIGITAL
AUDIO CONTROLS            SPEAKERS                   DVD2                      DIGITAL IN      COAX-1          ANLG IN LVL        +0dB
SETUP                     REAR PANEL CONFIG          LD                        ANALOG IN        NONE           DIGITAL BYPASS      OFF
                          DISPLAYS                   TV                        ANLG IN LVL      AUTO           DIG OUT RATE     44.1kHz
                          VOLUME CONTROLS            SAT                       VIDEO IN    S-VIDEO-1           RECORD          ENABLED
                          TRIGGERS                   VCR                       COMPONENT IN        1
                          LOCK OPTIONS               CD                        2-CH            L7 FILM
                                                     PVR                       ▯▯ D        5.1 L7 FILM
                                                     GAME                      dts ES        dts L7 FILM
                                                     TAPE                      MAIN ADVANCED
                                                     TUNER                     ZONE2 ADVANCED
                                                     AUX                       RECORD ADVANCED
```

DVD1 is used as an example in this illustration, and will continue to be used as an example throughout this section. Whenever "DVD1" appears as a step in a menu path, any other input may be substituted.

RECORD ADVANCED

SETUP ⊳ INPUTS ⊳ DVD1 ⊳ RECORD ADVANCED

Selecting RECORD ADVANCED accesses the RECORD ADV menu, which can be used to configure advanced settings in the Record Zone.

Parameter	Default Value	Values
INPUT SELECT	DIGITAL	AUTO, ANALOG, DIGITAL
ANLG IN LVL	+0dB	-18 to +12dB
DIGITAL BYPASS	OFF	ON, OFF
DIG OUT RATE	44.1kHz	44.1kHz, 48kHz, 88.2kHz, 96kHz, INPUT
RECORD	ENABLED	ENABLED, BLOCKED

INPUT SELECT   (AUTO, ANALOG, DIGITAL)

The INPUT SETUP menu allows the selection of two audio connector types - one analog, one digital. INPUT SELECT specifies how these connectors interact. The following settings are available:

- The **DIGITAL** setting forces the unit to utilize the DIGITAL IN connector for the Record Zone. If an ANALOG IN connector is also selected, it will be ignored. The unit will mute when an invalid digital audio input type is received. Valid digital audio input types include PCM, Dolby Digital, and dts(-ES). See page 2-16 for more information about using the DIGITAL setting in multiple zones.

- The **ANALOG** setting forces the unit to utilize the selected ANALOG IN connector for the Record Zone. If a DIGITAL IN connector is also selected, it will be ignored.

- The **AUTO** setting allows the unit to switch between the selected DIGITAL IN and ANALOG IN connectors. The DIGITAL IN connector is utilized when a valid digital audio input type is present. When invalid digital audio input types are received, the unit automatically switches to the ANALOG IN connector. INPUT SELECT will automatically be set to AUTO when a connect or selected for both the DIGITAL IN and ANALOG IN parameters. This setting is recommended for input sources that utilize both digital and analog audio input types, such as a laser disc player.

Note:

Some sources supply valid digital audio input types that remain active even when no audio is present in the signal. Because the unit recognizes these as valid digital audio input types, it will not switch to the ANALOG IN connector. For these sources, it is recommended to configure two different inputs - one for digital audio input types, and a second for analog audio input types.

ANLG IN LVL   (-18 to +12dB)

ANLG IN LVL allows manual adjustment of the analog input level of the RECORD AUDIO OUTPUT labelled S/PDIF. It is used to prevent the internal analog-to-digital converter from overloading. It can be adjusted while listening to an input source.

When ANLG IN LVL is selected, a white horizontal bar graph will appear on the screen below the ANLG IN LVL parameter. This graph illustrates the position at which the current setting falls within the -18 to +12dB parameter range. Press the up and down MENU arrows to increase and decrease the setting in 1dB increments. Press the left MENU arrow to close the graph and return to the RECORD ADV menu.

DIGITAL BYPASS   (ON, OFF)

DIGITAL BYPASS allows direct digital recording. When set to ON, the unit passes the digital input signal - unaltered - to the S/PDIF outputs. When set to OFF, the unit sends digital audio output through a sample rate converter before passing it to the S/PDIF outputs. This allows the digital output signal to match the input of a digital recording device.

Note:

Changing the setting of the DIG OUT RATE parameter will cause the RECORD AUDIO OUTPUT labelled S/PDIF to mute momentarily. Otherwise, DIG OUT RATE parameter settings will be ineffective when the DIGITAL BYPASS parameter is set to ON.

DIG OUT RATE   (44.1kHz, 48kHz, 88.2kHz, 96kHz, INPUT)

DIG OUT RATE sets the S/PDIF output sampling rate for analog or digital inputs. When set to INPUT, the unit varies the S/PDIF audio output rate to match the sampling rate of the input signal. When set to a numerical value, the output sampling rate remains at the selected value. This is useful for recording devices that operate on a single sampling rate, such as CD-R (44.1kHz).

RECORD   (ENABLED, BLOCKED)

RECORD prevents feedback loops with recording devices. When set to ENABLED, the unit allows record signals from the selected input to pass to the RECORD AUDIO and VIDEO OUTPUTS. When set to BLOCKED, the RECORD AUDIO OUTPUTS are blocked, preventing feedback loops. However, the unit will still pass video signals to the RECORD VIDEO OUTPUTS.

SPEAKER SETUP

CUSTOM SETUP

SETUP ▶ SPEAKERS ▶ **CUSTOM SETUP**

The CUSTOM SETUP menu can be used to configure the MAIN AUDIO OUTPUTS for a custom speaker system. For a Synthesis 7-channel setup that requires THX-certified loud speakers, use the SYNTHESIS 7CH SETUP menu (see page 3-24).

Parameter	Default Value	Values
FRONT L/R	40Hz	FULL, 30Hz to 120Hz, THX 80Hz
CENTER	60Hz	FULL, 30Hz to 120Hz, THX 80Hz, NONE
SIDE L/R	60Hz	FULL, 30Hz to 120Hz, THX 80Hz, NONE
REAR L/R	60Hz	FULL, 30Hz to 120Hz, THX 80Hz, NONE
SUB L/R	MONO	MONO, STEREO, NONE
SUB XOVER	40Hz	FULL, 30Hz to 120Hz, THX 80Hz
LFE	OFF	ON, OFF

Determining Crossover Settings

The CUSTOM SETUP menu allows different crossover points to be set for the following MAIN AUDIO OUTPUTS: FRONT L/R, CENTER, SIDE L/R, REAR L/R, and SUBWOOFER L/R. Crossover points can be set in 10Hz increments within a 30 to 120Hz range. All crossover settings activate a 24dB per octave filter, with the exception of THX 80Hz, which activates a 12dB per octave filter. The graphs on the next page illustrate the frequency response of the crossover settings.

For each output, select the crossover setting closest to the low-frequency rating of the corresponding speaker. For the SUBWOOFER L/R outputs, select the crossover setting that matches the lowest setting of the other speakers in the system. Crossover settings determine how the unit redirects low-frequency signals.

In general, low frequencies will be redirected from the outputs with the highest crossover setting to the outputs with the lowest crossover setting. Remaining low frequencies below the lowest crossover setting will be redirected to the SUBWOOFER L/R outputs. If the lowest crossover setting is FULL, no low frequencies will be redirected to the SUBWOOFER L/R outputs.

FREQUENCY RESPONSE CURVES
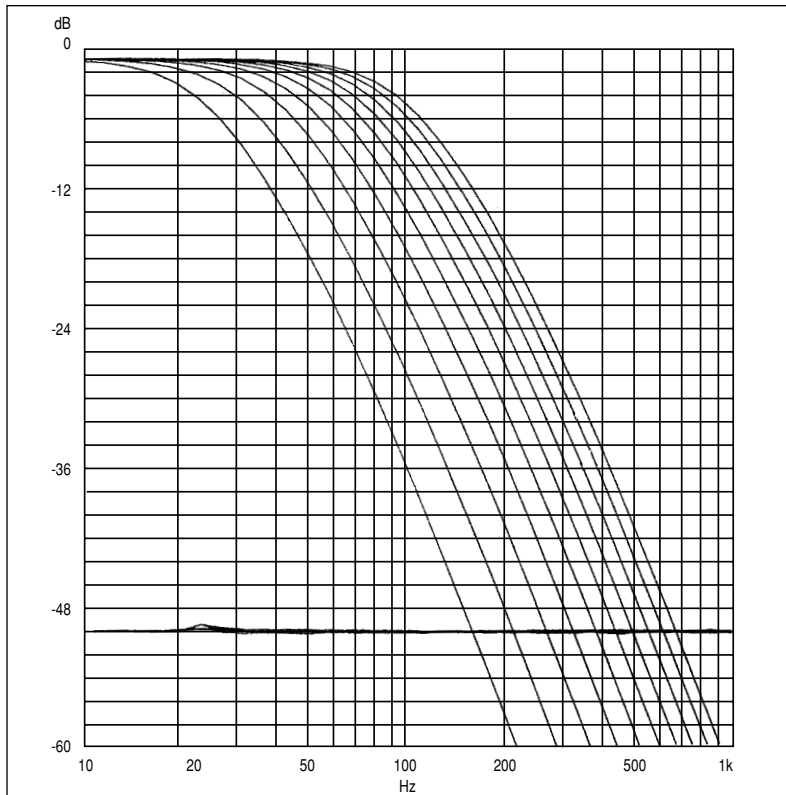
Lowpass Filter

The lowpass filter attenuates high frequencies at 24dB per octave. The curves show the frequency response of each crossover setting. From left to right, the curves represent crossover settings from 30Hz to 120Hz.
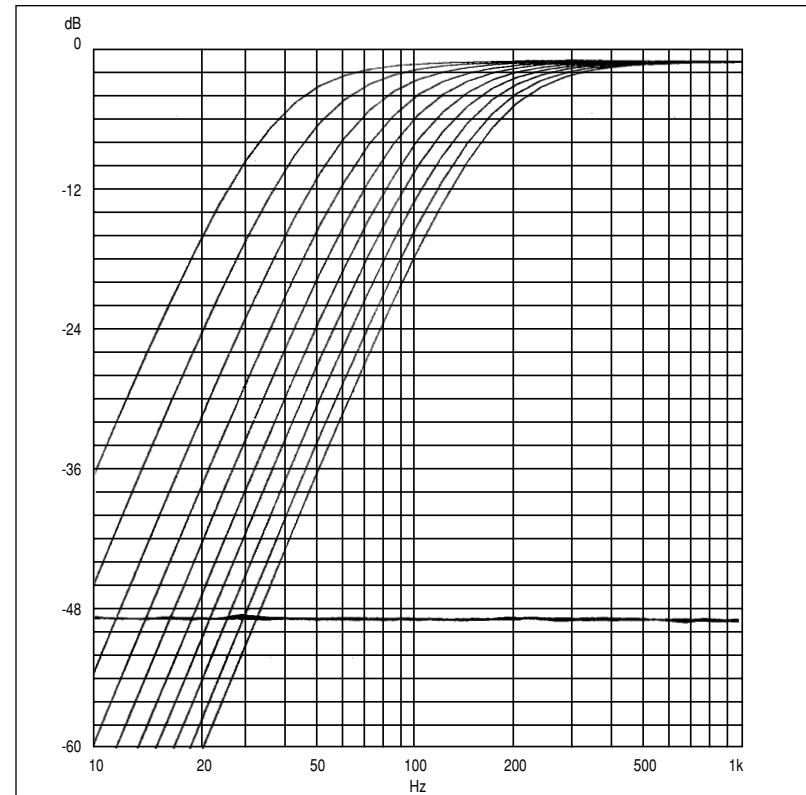
Highpass Filter

The highpass filter attenuates low frequencies at 24dB per octave. The curves show the frequency response of each crossover setting. From left to right, the curves represent crossover settings from 30Hz to 120Hz. This graph does not illustrate the THX 80Hz setting, which is 12dB per octave.

MAIN MENU	SETUP	SPEAKER SETUP	CUSTOM SETUP	FRONT L/R SPEAKERS
MODE ADJUST	INPUTS	CUSTOM SETUP	FRONT L/R 80Hz	FULL
AUDIO CONTROLS	SPEAKERS	SYNTHESIS 7CH SETUP	CENTER 80Hz	30Hz
SETUP	REAR PANEL CONFIG	SPEAKER DISTANCES	SIDE L/R 80Hz	40Hz
	DISPLAYS	LEVELS CALIBRATION	REAR L/R 80Hz	50Hz
	VOLUME CONTROLS		SUB L/R MONO	60Hz
	TRIGGERS		SUB XOVER 80Hz	70Hz
	LOCK OPTIONS		LFE OFF	80Hz

FRONT L/R SPEAKERS: FULL, 30Hz, 40Hz, 50Hz, 60Hz, 70Hz, 80Hz, THX 80Hz, 90Hz, 100Hz, 110Hz, 120Hz

CENTER SPEAKER: FULL, 30Hz, 40Hz, 50Hz, 60Hz, 70Hz, 80Hz, THX 80Hz, 90Hz, 100Hz, 110Hz, 120Hz, NONE

CUSTOM SETUP *(continued)*

SETUP ▷ SPEAKERS ▷ CUSTOM SETUP

FRONT L/R   (FULL, 30Hz to 120Hz, THX 80Hz)

The FRONT L/R parameter sets the crossover setting for the MAIN AUDIO OUTPUTS labelled FRONT L/R. When set to FULL, the unit sends a full-range audio signal to the FRONT L/R outputs. When set to a numerical crossover setting, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the front left and right speakers. See pages 3-18 and 3-19 for more information about crossover settings.

CENTER   (FULL, 30Hz to 120Hz, THX 80Hz, NONE)

The CENTER parameter sets the crossover setting for the MAIN AUDIO OUTPUT labelled CENTER. When set to FULL, the unit sends a full-range audio signal to the CENTER output. When set to a numerical crossover setting, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the center speaker. See pages 3-18 and 3-19 for more information about crossover settings. When set to NONE, the unit redirects center channel signals to the FRONT L/R outputs.

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

CUSTOM SETUP

FRONT L/R   80Hz
CENTER   80Hz
SIDE L/R   80Hz
REAR L/R   80Hz
SUB L/R   MONO
SUB XOVER   80Hz
LFE   OFF

SIDE L/R SPEAKERS

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE

REAR L/R SPEAKERS

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE

SIDE L/R   (FULL, 30Hz to120Hz, THX 80Hz, NONE)

The SIDE L/R parameter sets the crossover setting for the MAIN AUDIO OUTPUTS labelled SIDE L/R. When set to FULL, the unit sends a full-range audio signal to the SIDE L/R outputs. When set to a numerical crossover setting, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the side left and right speakers. See pages 3-18 and 3-19 for more information about crossover settings.

When set to NONE, the unit redirects side channel signals to the REAR L/R outputs. When both the SIDE L/R and REAR L/R parameters are set to NONE, the unit redirects surround channel signals to the FRONT L/R outputs.

REAR L/R   (FULL, 30Hz to 120Hz, THX 80Hz, NONE)

The REAR L/R parameter sets the crossover setting for the MAIN AUDIO OUTPUTS labelled REAR L/R. When set to FULL, the unit sends a full-range audio signal to the REAR L/R outputs. When set to a numerical crossover setting, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the rear left and right speakers. See pages 3-18 and 3-19 for more information about crossover settings.

When set to NONE, the unit redirects rear channel signals to the SIDE L/R outputs. When both the SIDE L/R and REAR L/R parameters are set to NONE, the unit redirects surround channel signals to the FRONT L/R outputs.

```
┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│ MAIN MENU           │      │ SETUP               │      │ SPEAKER SETUP       │      │ CUSTOM SETUP        │      │ SUBWOOFERS  L/R     │
├─────────────────────┤      ├─────────────────────┤      ├─────────────────────┤      ├─────────────────────┤      ├─────────────────────┤
│ MODE ADJUST         │ ▶    │ INPUTS              │ ▶    │ CUSTOM SETUP        │ ▶    │ FRONT L/R     80Hz  │ ▶    │ MONO                │
│ AUDIO CONTROLS      │      │ SPEAKERS            │      │ SYNTHESIS 7CH SETUP │      │ CENTER        80Hz  │      │ STEREO              │
│ SETUP               │      │ REAR PANEL CONFIG   │      │ SPEAKER DISTANCES   │      │ SIDE L/R      80Hz  │      │ NONE                │
└─────────────────────┘      │ DISPLAYS            │      │ LEVELS CALIBRATION  │      │ REAR L/R      80Hz  │      └─────────────────────┘
                             │ VOLUME CONTROLS     │      │                     │      │ SUB L/R       MONO  │
                             │ TRIGGERS            │      │                     │      │ SUB XOVER     80Hz  │
                             │ LOCK OPTIONS        │      │                     │      │ LFE           OFF   │
                             └─────────────────────┘      └─────────────────────┘      └─────────────────────┘
```

```
                                                     SUB XOVER
                                                   ┌───────────┐
                                                   │ FULL      │
                                                   │ 30Hz      │
                                                   │ 40Hz      │
                                                   │ 50Hz      │
                                                   │ 60Hz      │
                                                   │ 70Hz      │
                                                   │ 80Hz      │
                                                   │ THX 80Hz  │
                                                   │ 90Hz      │
                                                   │ 100Hz     │
                                                   │ 110Hz     │
                                                   │ 120Hz     │
                                                   └───────────┘
```

CUSTOM SETUP *(continued)*

SETUP ⊳ SPEAKERS ⊳ CUSTOM SETUP

SUB L/R　　　　　　　　　　　　　　(MONO, STEREO, NONE)

The SUB L/R parameter determines the configuration of the MAIN AUDIO OUTPUTS labelled SUBWOOFER L/R. When set to MONO, the front left and right, center, side left and right, and rear left and right channels are combined and sent to the SUBWOOFER L/R outputs. This setting is recommended for all Synthesis systems, regardless of the number of subwoofers being used.

When set to STEREO, low frequencies from the front left, center, side left, and rear left channels are combined and sent to the SUBWOOFER L output. Low frequencies from the front right, center, side right, and rear right are combined and set to the SUBWOOFER R output.

When set to NONE, low frequencies from the FRONT L/R, CENTER, SIDE L/R, and REAR L/R outputs will not be passed to the SUBWOOFER L/R ouputs and will be filtered at the lowest crossover setting selected.

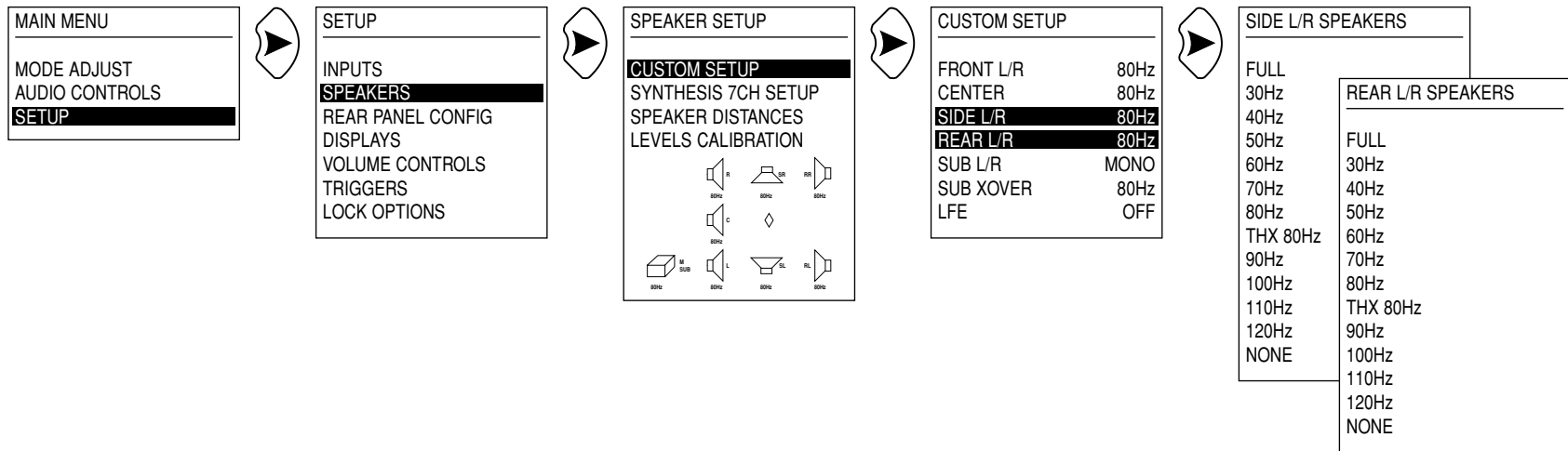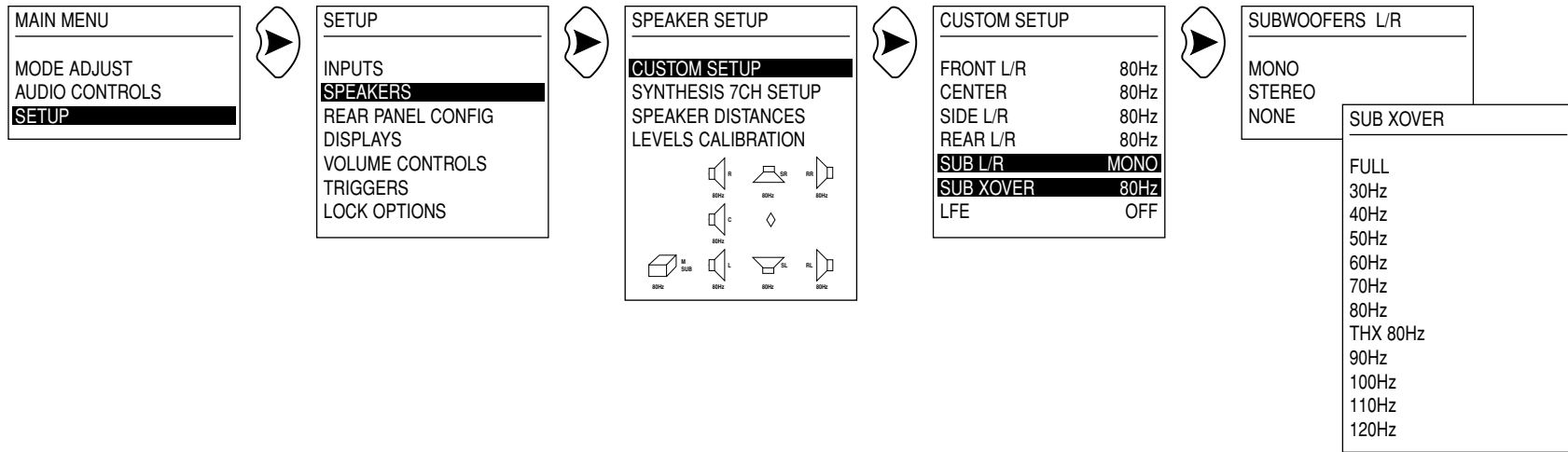**SUB XOVER**　　　　　　　(FULL, 30Hz to 120Hz, THX 80Hz)

The SUB XOVER parameter sets the crossover setting for the MAIN AUDIO OUTPUTS labelled SUB L/R. When set to FULL, the unit sends a full-range audio signal to the SUB L/R outputs. When set to a numerical crossover setting, the unit activates a crossover at the selected frequency. Choose the setting that matches the lowest crossover setting in the system. See pages 3-18 and 3-19 for more information about crossover settings.

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

CUSTOM SETUP

FRONT L/R   80Hz
CENTER   80Hz
SIDE L/R   80Hz
REAR L/R   80Hz
SUB L/R   MONO
SUB XOVER   80Hz
LFE
                 OFF
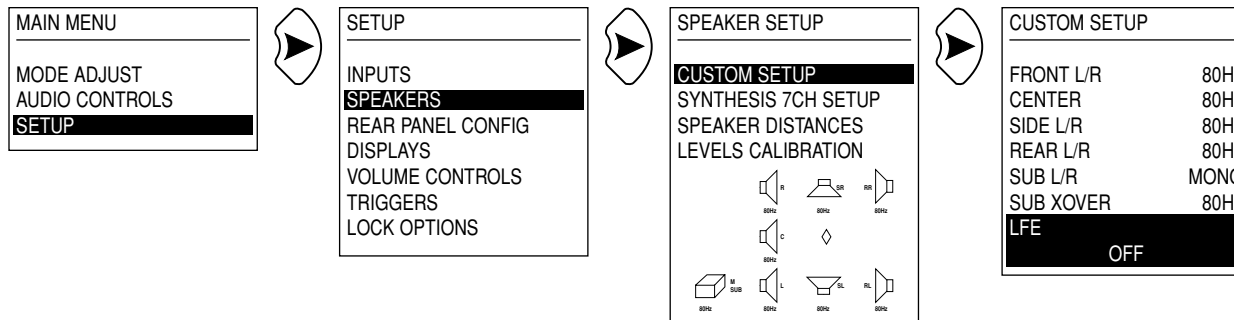
LFE   (ON, OFF)

LFE (Low Frequency Effects) activates and deactivates the MAIN AUDIO OUTPUT labelled LFE. Selecting this parameter accesses the pulldown menu pictured above. Use the up and down MENU arrows to switch between the ON and OFF settings. Press the right MENU arrow to select the desired setting. Press the left MENU arrow to close the pulldown menu and return to the CUSTOM SETUP menu.

When the LFE parameter is set to ON, the unit sends the LFE channel to the LFE output. When set to OFF, the unit deactivates the LFE output and sends the LFE channel to the SUBWOOFER L/R outputs. If the SUBWOOFER L/R outputs are set to NONE, the LFE channel is sent to the MAIN AUDIO OUTPUTS with the lowest crossover setting.

For example, LFE is set to OFF, SUBWOOFER L/R is set to NONE, FRONT L/R is set to 40Hz, and the rest of the MAIN AUDIO OUTPUTS are set to 60Hz. The LFE channel will be sent to the FRONT L/R outputs, utilizing the 40Hz crossover point.

MAIN MENU		SETUP		SPEAKER SETUP		SYNTHESIS 7CH SETUP		SYNTHESIS 7CH SETUP

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

SYNTHESIS 7CH SETUP

PRESSING THE RIGHT →
BUTTON WILL
AUTOMATICALLY CHANGE
THE OUTPUTS TO A
SYNTHESIS 7CH SPEAKER
CONFIGURATION

SYNTHESIS 7CH SETUP

FRONT L/R	80Hz
CENTER	80Hz
SIDE L/R	80Hz
REAR L/R	80Hz
SUB L/R	MONO
SUB XOVER	80Hz
LFE	OFF

SYNTHESIS 7CH SETUP

SETUP ▷ SPEAKERS ▷ SYNTHESIS 7CH SETUP

Parameter	Default Value	Values
FRONT L/R	80Hz	80Hz
CENTER	80Hz	80Hz
SIDE L/R	80Hz	80Hz
REAR L/R	80Hz	80Hz, NONE
SUB L/R	MONO	MONO
SUB XOVER	80Hz	80Hz
LFE	OFF	OFF

The SYNTHESIS 7CH SETUP menu can be used to configure the MAIN AUDIO OUTPUTS for a 5.1 or 7.1-channel Synthesis system, which incorporates THX-certified loud speakers. For a non-THX-certified speaker system, use the CUSTOM SETUP menu (see page 3-18). When SYNTHESIS 7CH SETUP is selected, a message will appear cautioning that, if the right MENU arrow is pressed again, the MAIN AUDIO OUTPUTS will automatically change to a SYNTHESIS 7CH speaker configuration. This will override custom speaker settings that have been chosen. Press the right MENU arrow to activate a SYNTHESIS 7CH speaker configuration. Press the left MENU arrow to cancel SYNTHESIS 7CH speaker configuration and return to the SPEAKER SETUP menu.

If a SYNTHESIS 7CH speaker configuration is activated, the SYNTHESIS 7CH SETUP menu will display the SYNTHESIS 7CH configuration settings. The unit will automatically set all outputs to 80Hz with a 24dB per octave filter. The only exceptions are SUB L/R and LFE. SUB L/R will be set to MONO (see page 3-22) and LFE will be set to OFF (see page 3-23). SYNTHESIS 7CH speaker configuration applies to all inputs and listening modes.

```
MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP
```

```
SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS
```

```
SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION
```

```
SPEAKER DISTANCES

FRONT LEFT        0.0ft
CENTER            0.0ft
FRONT RIGHT       0.0ft
SIDE RIGHT        0.0ft
REAR RIGHT        0.0ft
REAR LEFT         0.0ft
SIDE LEFT         0.0ft
SUB (MONO) *      0.0ft
SUB RIGHT         0.0ft
LFE SUB           0.0ft
UNITS             FEET
```

***** *When SUB L/R is set to STERE0 or NONE (see page 3-22), the SUB MONO parameter will appear as SUB LEFT.*

Note:

When a JBL Digital Equalizer is used in the system, speaker distances should remain at their factory-default settings (left). The digital equalizer will perform arrival time correction when calibrated.

The parameters on the SYNTHESIS 7CH SETUP menu are not adjustable, with the exception of REAR L/R. The default value of REAR L/R is 80Hz, which activates the rear speakers for use in a SYNTHESIS 7CH setup. This setup requires rear speakers to be operational. When set to OFF, the REAR L/R outputs are deactivated and the Surround EX parameter (page 5-24) cannot be set to ON.

Note:

The SYNTHESIS 7CH SETUP menu is not adjustable, with the exception of the REAR L/R parameter. To customize settings, use the CUSTOM SETUP menu (see page 3-18).

SPEAKER DISTANCES

SETUP ⮞ SPEAKERS ⮞ SPEAKER DISTANCES

Selecting SPEAKER DISTANCES accesses the SPEAKER DISTANCES menu, which can be used to set the listener position relative to the speakers. The unit features a speaker distance control, used for entering distances for all speakers. This feature is not a substitute for proper speaker placement, though it does help to ensure accurate signal arrival times at the primary listening position.

Speaker distances can be set within a range of 0 to 30ft or 0 to 12m. The UNITS parameter selects the desired unit of measurement. The unit will automatically convert feet to meters or meters to feet when the parameter setting is changed. To determine the appropriate setting, measure the distance between the primary listening position and the front baffle of each speaker. Enter the closest available value in the corresponding parameter.

Press the right MENU arrow to select the desired speaker for adjustment. Press the up and down MENU arrows to increase and decrease the distance in 0.5ft or 0.2m increments. Press the left MENU arrow once to exit the selected parameter, and twice to exit the SPEAKER DISTANCES menu.

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

R   SR   RR
0.0dB   0.0dB   0.0dB

C
0.0dB

M   L   SL   RL
SUB
0.0dB   0.0dB   0.0dB   0.0dB

LEVELS CALIBRATION

INTERNAL NOISE TEST
DACS CALIBRATION
SUB LIMITERS

SPEAKER LEVEL ADJUST

FRONT LEFT   +0.0dB
CENTER   +0.0dB
FRONT RIGHT   +0.0dB
SIDE RIGHT   +0.0dB
REAR RIGHT   +0.0dB
REAR LEFT   +0.0dB
SIDE LEFT   +0.0dB
SUB (MONO) *   +0.0dB
SUB RIGHT   +0.0dB
LFE SUB   +0.0dB

* *When SUB L/R is set to STERE0 or NONE (see page 3-22), the SUB MONO parameter will appear as SUB LEFT.*

Note:

Front panel and remote control buttons - except the MENU button and MENU arrows - will not function while the SPEAKER LEVEL ADJUST menu is selected. All buttons will regain functionality when the menu is exited.

LEVELS CALIBRATION

SETUP ▷ SPEAKERS ▷ LEVELS CALIBRATION

Properly calibrated output levels are critical. Setting output levels is a simple procedure using a Sound Pressure Level (SPL) meter. This device measures the relative loudness of the speakers so that output levels can be calibrated accurately. An SPL meter can be purchased at Radio Shack (catalog no. 33-2050).

To ensure the most accurate calibration levels:

- Eliminate extraneous noises in the listening space, such as conversation, air conditioners, and sounds that filter in from open doors and windows.

- Remove objects (including people) that obstruct the line-of-sight path between the SPL meter and the speaker being measured.

- Measure output levels from the primary listening position, placing the SPL meter at the approximate spot where the listener's head will be during listening.

INTERNAL NOISE TEST

Selecting either INTERNAL NOISE TEST or DACS CALIBRATION accesses the SPEAKER LEVEL ADJUST menu (pictured above). When INTERNAL NOISE TEST is selected, a cautionary message (pictured at the right) will appear on the screen. This serves as a reminder that the INTERNAL NOISE TEST generates loud calibration noises. When the message appears, press the right MENU arrow to proceed to the SPEAKER LEVEL ADJUST menu. Press the left MENU arrow to return to the LEVELS CALIBRATION menu.

INTERNAL NOISE

!CAUTION!
HIGH AUDIO LEVELS
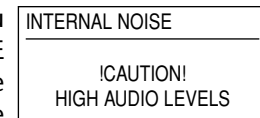
As the INTERNAL NOISE TEST is conducted, a noise signal will move from output to output following the order on the SPEAKER

LEVEL ADJUST menu. The cursor will automatically scroll through the menu highlighting each output as it is tested. Each output is tested for approximately 4s. It is possible to manually select a speaker just as the unit is about to automatically scroll to the next speaker, causing the unit to send the noise signal to both outputs. If this occurs, reselect the desired speaker.

The calibration noise will pass briefly through the SUB R output when the SUB L/R parameter on the CUSTOM SETUP or SYNTHESIS 7CH SETUP menu is set to MONO, or the SUB RIGHT parameter on the SPEAKER LEVELS ADJUST menu is manually selected during the test.

Before making adjustments, set the SPL meter to "C" weighting and "SLOW" response. Use the up and down MENU arrows to temporarily interrupt automatic scrolling and manually select an output. Press the right MENU arrow to select an output for adjustment, then use the up and down MENU arrows to increase and decrease the level of the selected output in 0.5dB increments within a range of -18 to +12dB. Adjust all output levels to achieve a 75dB reading on the SPL meter from the primary listening position. Press the left MENU arrow to exit the selected output and resume automatic scrolling.

Note:

Speakers that are set to NONE on the CUSTOM SETUP menu cannot be adjusted during the INTERNAL NOISE TEST. These speakers can be adjusted during DACS CALIBRATION, but this is not recommended.
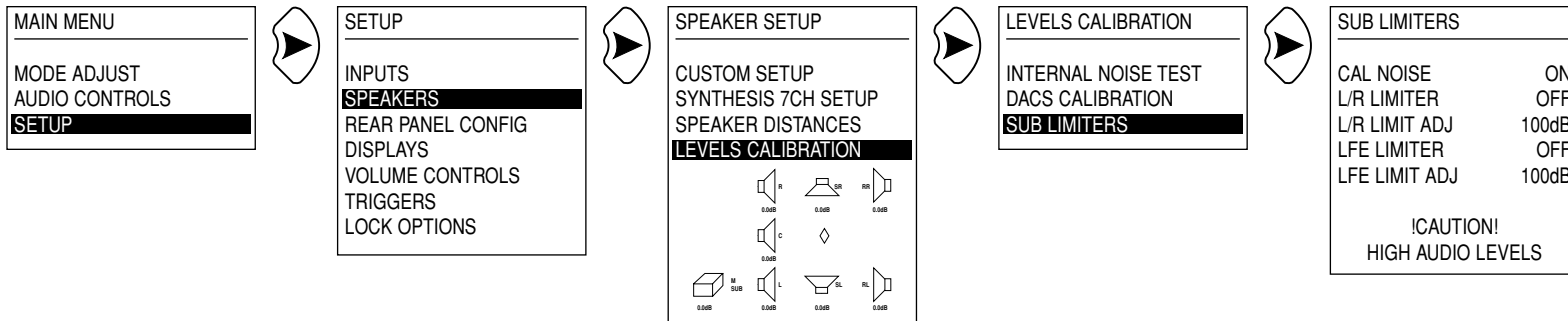
DACS CALIBRATION

Selecting either INTERNAL NOISE TEST or DACS CALIBRATION accesses the SPEAKER LEVEL ADJUST menu (pictured on the previous page).

DACS CALIBRATION requires an external noise source. In JBL Synthesis systems, this source is the JBL Digital Acoustical Calibration System (DACS®). However, an alternate source such as an audio calibration disc can also be used. As the noise test is conducted, the SDP-40 loads the DOLBY Pro Logic II, Dolby Digital, or dts(-ES) utilizing the signal from the DACS® calibration system or audio calibration disc.

For example, if an analog or PCM input type is coming into the unit when DACS CALIBRATION is conducted, the unit will activate the DOLBY Pro Logic II listening mode. If a Dolby Digital input type is coming in, the unit will activate the DOLBY DIGITAL listening mode. And if a dts(-ES) input type is coming in, the unit will activate the dts(-ES) listening mode. When DACS CALIBRATION is selected, these listening modes will retain their factory-default settings. The unit will temporarily disregard customized listening mode settings.

For system optimization using DACS® and a JBL Synthesis Digital Equalizer, connect the left and right RCA outputs of the DACS® signal generator (EVP-1) to the #1 analog input (which is active in the TAPE input) and set the front panel volume level to 0dB. This will provide the correct signal path and reference output level.

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

▶

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

▶

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

R   SR   RR
0.0dB   0.0dB   0.0dB

C
0.0dB

M
SUB   L   SL   RL
0.0dB   0.0dB   0.0dB   0.0dB

▶

LEVELS CALIBRATION

INTERNAL NOISE TEST
DACS CALIBRATION
SUB LIMITERS

▶

SUB LIMITERS

CAL NOISE   ON
L/R LIMITER   OFF
L/R LIMIT ADJ   100dB
LFE LIMITER   OFF
LFE LIMIT ADJ   100dB

!CAUTION!
HIGH AUDIO LEVELS

LEVELS CALIBRATION *(continued)*

SETUP ▷ SPEAKERS ▷ LEVELS CALIBRATION

DACS CALIBRATION *(continued)*

Before making adjustments, set the SPL meter according to the DACS® Installers Manual or audio calibration disc instructions. If no setting is recommended, set the SPL meter to "C" weighting and "SLOW" response. Use the up and down MENU arrows to manually scroll through menu items. Press the right MENU arrow to select an output for adjustment, then use the up and down MENU arrows to increase and decrease the level of the selected output in 0.5dB increments within a range of -18 to +12dB. Adjust all output levels to achieve the appropriate reading on the SPL meter from the primary listening position. Press the left MENU arrow to exit the selected output and return to the SPEAKER LEVEL ADJUST menu.

Note:

SDP-40 Balanced output levels must be recalibrated when output connections are changed from unbalanced to balanced or vice versa. The balanced outputs are approximately 6dB louder than the unbalanced outputs.

SUB LIMITERS

Dolby Digital and dts(-ES) input types can produce low-frequency peaks at much higher levels than 2-channel input types. In home listening spaces, the subwoofer and its associated amplifier are sometimes unable to reproduce these levels without overloading. For this reason, the unit is equipped with internal sub limiters that help prevent subwoofer signals from exceeding a designated value. This parameter can be adjusted within a 75 to 115dB range. Separate limiters are provided for the SUBWOOFER L/R and the LFE outputs.

Parameter	Default Value	Values
CAL NOISE	ON	ON, OFF
L/R LIMITER	OFF	ON, OFF
L/R LIMIT ADJ	100dB	75 to 115dB
LFE LIMITER	OFF	ON, OFF
LFE LIMIT ADJ	100dB	75 to 115dB

Note:

In cases where the left and right subwoofers have built-in limiter protection, the L/R LIMITER parameter should be set to OFF. In cases where the LFE subwoofer has built-in limiter protection, the LFE LIMITER parameter should be set to OFF.

CAL NOISE   (ON, OFF)

CAL NOISE determines whether limiters will be set using an internal or external noise signal. When set to ON, the unit activates the internal calibration noise to set the limiters. When set to OFF, the unit deactivates the internal calibration noise, requiring the use of an audio calibration disc to set the limiters.

L/R LIMITER   (ON, OFF)

L/R LIMITER affects the SUBWOOFER L/R outputs, as well as any low-frequency signals redirected to other MAIN AUDIO OUTPUTS. When set to ON, these outputs will be restricted to the limit specified in the L/R LIMIT ADJ parameter. When set to OFF, the output level of these outputs will not be restricted. The L/R LIMITER should be set to OFF when the left and right subwoofers have built-in limiter protection.

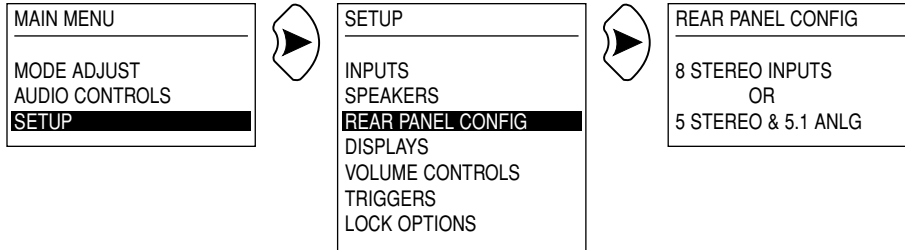### L/R LIMIT ADJ   (75 to 115dB)

L/R LIMIT ADJ specifies the output level restriction placed on the SUBWOOFER L/R outputs, as well as any low-frequency signals redirected to other MAIN AUDIO OUTPUTS, when the L/R LIMITER parameter is set to ON. Press the right MENU arrow to select this parameter for adjustment. Its setting will automatically change to 75dB. Use the up and down MENU arrows to increase and decrease the setting in 1dB increments. Gradually increase the setting until the subwoofer begins to overload, then reduce the setting until the subwoofer stops overloading. Press the left MENU arrow to accept the setting and exit the parameter.

LFE LIMITER   (ON, OFF)

LFE LIMITER affects the LFE output. When set to ON, the output level of the LFE output will be restricted to the limit specified in the LFE LIMIT ADJ parameter. When set to OFF, the output level of the LFE output will not be restricted. The LFE LIMITER should be set to OFF when the LFE subwoofer has built-in limiter protection.

LFE LIMIT ADJ   (75 to 115dB)

LFE LIMIT ADJ specifies the output level restriction placed on the LFE output when the LFE LIMITER parameter is set to ON. Press the right MENU arrow to select this parameter for adjustment. Its setting will automatically change to 75dB. Use the up and down MENU arrows to increase and decrease the setting in 1dB increments. Gradually increase the setting until the subwoofer begins to overload, then reduce the setting until the subwoofer stops overloading. Press the left MENU arrow to accept the setting and exit the parameter.

```
MAIN MENU              ▷        SETUP                ▷      REAR PANEL CONFIG
MODE ADJUST                     INPUTS                      8 STEREO INPUTS
AUDIO CONTROLS                  SPEAKERS                          OR
SETUP                           REAR PANEL CONFIG          5 STEREO & 5.1 ANLG
                                DISPLAYS
                                VOLUME CONTROLS
                                TRIGGERS
                                LOCK OPTIONS
```

Note:

If 5 STEREO & 5.1 ANLG is selected on the REAR PANEL CONFIG menu, the unit will automatically select the 5.1 BYPASS listening mode if the following conditions are also met:

- *The ANALOG IN parameter on the INPUT SETUP menu is set to 5.1 ANALOG (see page 3-6).*

- *The INPUT SELECT parameter on the MAIN ADV menu is set to either AUTO or ANALOG (see page 3-13). When set to AUTO, no digital input types can be present.*

- *The ANALOG BYPASS parameter on the MAIN ADV menu is set to ON (see page 3-13).*

REAR PANEL CONFIG

The REAR PANEL CONFIG menu can be used to configure AUDIO INPUT pairs 1 to 8 on the rear panel. These inputs can be set up to function as eight stereo analog input pairs, or as five stereo analog input pairs and one 5.1-channel analog input.

8 STEREO INPUTS

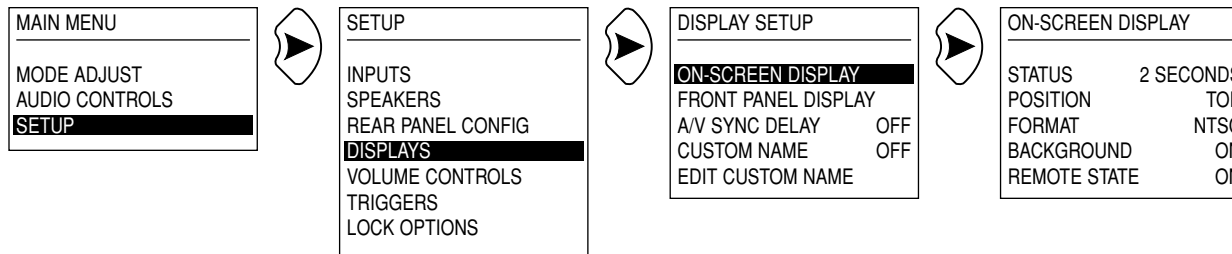SETUP ▷ REAR PANEL CONFIG ▷ 8 STEREO INPUTS

8 STEREO INPUTS is the default setting for REAR PANEL CONFIG. When set to 8 STEREO INPUTS, the AUDIO INPUTS are configured as eight stereo analog input pairs. Pairs 6, 7, and 8 are not available as a 5.1-channel analog input. Input types that are assigned to the 5.1-channel analog input will be reassigned to stereo input Pair 6.

5 STEREO & 5.1 ANLG

SETUP ▷ REAR PANEL CONFIG ▷ 5 STEREO & 5.1 ANLG

When set to 5 STEREO & 5.1 ANLG, the AUDIO INPUTS are configured as five stereo analog input pairs and one 5.1-channel analog input. The 5.1-channel analog input consists of AUDIO INPUT pairs 6, 7, and 8. Pair 6 becomes the front left and right (L)/(R) inputs. Pair 7 becomes the center (C) and subwoofer (SUB) inputs. And Pair 8 becomes the surround left and right (LS)/(RS) inputs. Input types that are assigned to stereo analog input pairs 6, 7, and 8 will be reassigned to the 5.1-channel analog input.

When selected for the Main Zone, these input signals are sent to the corresponding outputs. However, neither Zone 2 nor the Record Zone provide multi-channel outputs. If the 5.1-channel analog input is selected for Zone 2 or the Record Zone, only the front left and right (L)/(R) inputs will be available.

```
MAIN MENU                    SETUP                      DISPLAY SETUP              ON-SCREEN DISPLAY
                      ▶                           ▶                          ▶
MODE ADJUST                  INPUTS                     ON-SCREEN DISPLAY          STATUS      2 SECONDS
AUDIO CONTROLS               SPEAKERS                   FRONT PANEL DISPLAY        POSITION          TOP
SETUP                        REAR PANEL CONFIG          A/V SYNC DELAY     OFF     FORMAT           NTSC
                             DISPLAYS                   CUSTOM NAME        OFF     BACKGROUND         ON
                             VOLUME CONTROLS            EDIT CUSTOM NAME           REMOTE STATE       ON
                             TRIGGERS
                             LOCK OPTIONS
```

DISPLAY SETUP

ON-SCREEN DISPLAY

SETUP ▷ DISPLAYS ▷ ON-SCREEN DISPLAY

Parameter	Default Value	Values
STATUS	2 SECONDS	ALWAYS ON, 2 SECONDS, ALWAYS OFF
POSITION	TOP	TOP, CENTER, BOTTOM
FORMAT	NTSC	NTSC, PAL, SECAM
BACKGROUND	ON	ON, OFF
REMOTE STATE	ON	ON, OFF

STATUS   (ALWAYS ON, 2 SECONDS, ALWAYS OFF)

STATUS activates and deactivates the on-screen display, provided the display device is utilizing the MAIN VIDEO OUTPUT labelled 1 (OSD). When set to ALWAYS ON, the on-screen display remains on at all times. When set to 2 SECONDS, the on-screen display will appear for two seconds when the unit receives a command or the input type changes. When set to ALWAYS OFF, the on-screen display remains off at all times.

POSITION   (TOP, CENTER, BOTTOM)

POSITION controls the vertical position of the two-line status (see page 1-5) on the display device. When set to TOP, the two-line status appears near the top of the display device screen. When set to CENTER, the two-line status is centered on the display device screen. This setting is recommended when the top and bottom of the on-screen display appears cropped (not visible). When set to BOTTOM, the two-line status appears near the bottom of the display device screen.

ON-SCREEN DISPLAY *(continued)*

FORMAT   (NTSC, PAL, SECAM)

The FORMAT parameter has three settings: NTSC, PAL, and SECAM. These settings make the video switcher and on-screen display compatible with NTSC, PAL, or SECAM formats. The appropriate setting varies from country to country. Consult the display device user guide to determine the correct setting.

BACKGROUND   (ON, OFF)

BACKGROUND activates and deactivates the menu background. When set to ON, the menu appears over a solid blue or grey background. When set to OFF, the menu appears over the incoming video signal. Setting this parameter to OFF will automatically deactivate the on-screen display if the display device is utilizing the COMPONENT VIDEO OUTPUT.

REMOTE STATE   (ON, OFF)

The REMOTE STATE parameter controls whether or not the active remote control command bank will be indicated on the on-screen display. When set to ON, the active command bank is indicated in the top-right corner of the on-screen display. A yellow "Z" will appear when the ZONE command bank is active. A red "R" will appear when the REC command bank is active. A blue "S" will appear when the SHIFT command bank is active. Nothing will appear when the MAIN command bank is active. When set to OFF, the active command bank is not indicated on the on-screen display.

FRONT PANEL DISPLAY

`SETUP` ▶ `DISPLAYS` ▶ `FRONT PANEL DISPLAY`

Parameter	Default Value	Values
STATUS	ALWAYS ON	ALWAYS ON, 2 SECONDS, ALWAYS OFF
BRIGHTNESS	75%	100%, 75%, 50%, 25%

STATUS   (ALWAYS ON, 2 SECONDS, ALWAYS OFF)

STATUS activates and deactivates the front panel display. When set to ALWAYS ON, the front panel display remains on at all times. When set to 2 SECONDS, the front panel display will appear for two seconds when the unit receives a command or the input type changes. When set to ALWAYS OFF, the front panel display remains off at all times.
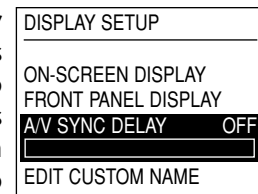
BRIGHTNESS   (100%, 75%, 50%, 25%)
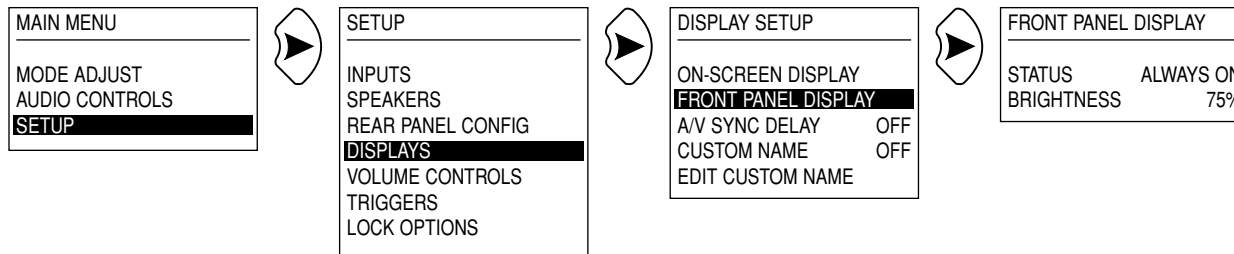
BRIGHTNESS adjusts the brightness of the front panel display. The front panel display will adjust accordingly when a setting is selected.

A/V SYNC DELAY

`SETUP` ▶ `DISPLAYS` ▶ `A/V SYNC DELAY`

A/V SYNC DELAY synchronizes the delay time between audio and video signals. This parameter is useful when using a video processor or line scaler. These products introduce a delay in the video signal, which causes the audio and video signals to

```
DISPLAY SETUP

ON-SCREEN DISPLAY
FRONT PANEL DISPLAY
A/V SYNC DELAY          OFF

EDIT CUSTOM NAME
```

```
MAIN MENU              ▶    SETUP              ▶    DISPLAY SETUP        ▶    FRONT PANEL DISPLAY
─────────                   ─────                   ─────────────             ───────────────────
MODE ADJUST                 INPUTS                  ON-SCREEN DISPLAY         STATUS      ALWAYS ON
AUDIO CONTROLS              SPEAKERS                FRONT PANEL DISPLAY       BRIGHTNESS        75%
SETUP                       REAR PANEL CONFIG       A/V SYNC DELAY    OFF
                            DISPLAYS                CUSTOM NAME       OFF
                            VOLUME CONTROLS         EDIT CUSTOM NAME
                            TRIGGERS
                            LOCK OPTIONS
```

become unsynchronized in a system. Setting a corresponding audio delay with A/V SYNC DELAY restores synchronization.

A/V SYNC DELAY can be set in 1ms increments within its 1 to 60ms parameter range. When setting the A/V SYNC DELAY parameter, it is recommended to use a news broadcast or another source that does not utilize Automated Dialog Replacement. When set to OFF, the parameter is deactivated.
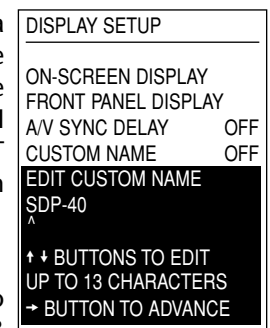
CUSTOM NAME

SETUP ▷ DISPLAYS ▷ CUSTOM NAME

CUSTOM NAME displays the text entered in the EDIT CUSTOM NAME parameter. When set to ON, the custom name will scroll across the on-screen and front panel displays when the unit is powered on. When set to OFF, the custom name will not appear when the unit is powered on.
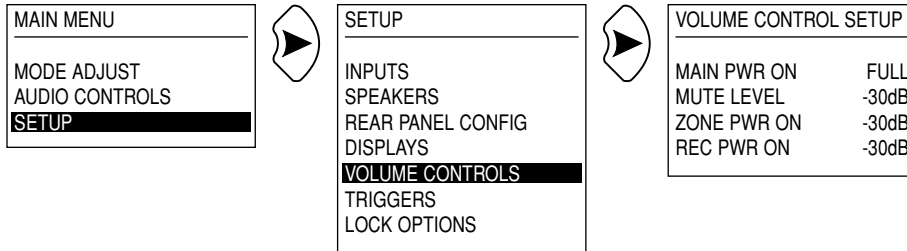
```
DISPLAY SETUP
─────────────

ON-SCREEN DISPLAY
FRONT PANEL DISPLAY
A/V SYNC DELAY       OFF
CUSTOM NAME
          OFF
```
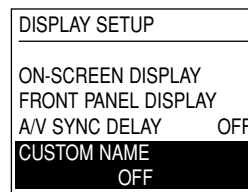
EDIT CUSTOM NAME

SETUP ▷ DISPLAYS ▷ EDIT CUSTOM NAME

EDIT CUSTOM NAME allows the creation of a customized name that scrolls across the on-screen and front panel displays when the unit is powered on, provided the CUSTOM parameter is set to ON. Selecting EDIT CUSTOM NAME accesses the pulldown menu pictured at the right.

```
DISPLAY SETUP
─────────────

ON-SCREEN DISPLAY
FRONT PANEL DISPLAY
A/V SYNC DELAY       OFF
CUSTOM NAME          OFF
EDIT CUSTOM NAME
SDP-40
^
↑ ↓ BUTTONS TO EDIT
UP TO 13 CHARACTERS
→ BUTTON TO ADVANCE
```

Use the up and down MENU arrows to change the character above the ^. Up to 13 characters (including blank spaces) can be entered. Use the right MENU arrow to advance to the next character. The ^ will automatically wrap to the first character space after the thirteenth character space is passed. When finished, press the left MENU arrow to close the pulldown menu.
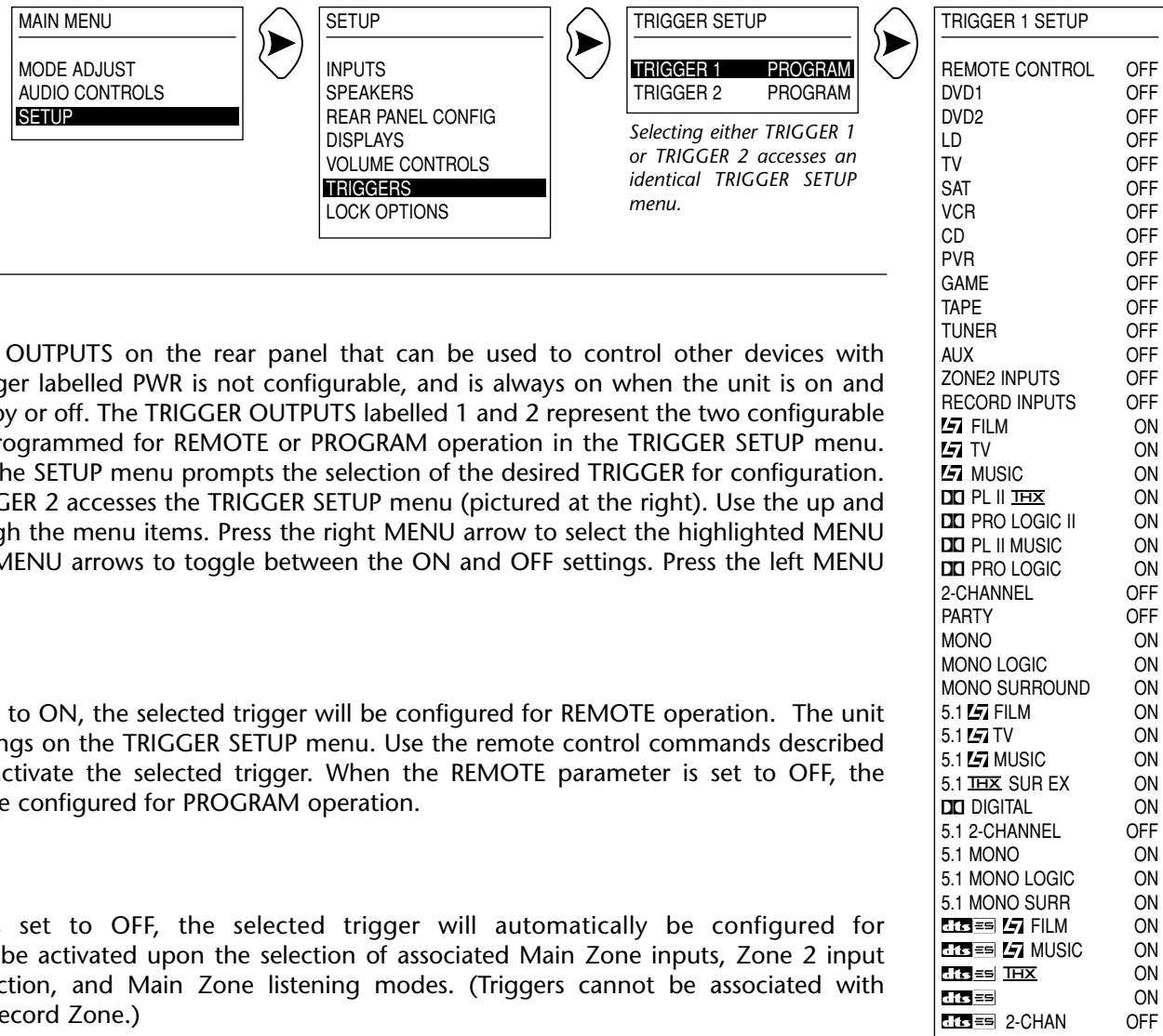
```
MAIN MENU                          SETUP                            VOLUME CONTROL SETUP

MODE ADJUST                        INPUTS                           MAIN PWR ON        FULL
AUDIO CONTROLS                     SPEAKERS                         MUTE LEVEL         -30dB
SETUP                              REAR PANEL CONFIG                ZONE PWR ON        -30dB
                                   DISPLAYS                         REC PWR ON         -30dB
                                   VOLUME CONTROLS
                                   TRIGGERS
                                   LOCK OPTIONS
```

VOLUME CONTROL SETUP

Parameter	Default Value	Values
MAIN PWR ON	-30dB	LAST LVL, -80 to +6dB
MUTE LEVEL	FULL	FULL, -40dB, -30dB, -20dB, -10dB
ZONE PWR ON	-30dB	LAST LVL, -80 to +6dB
REC PWR ON	-30dB	LAST LVL, -80 to +6dB

MAIN PWR ON   (LAST LVL, -80 to +6dB)

MAIN PWR ON establishes the volume level that will be active in the Main Zone whenever the unit is powered on. When set to LAST LVL, the Main Zone will power on at the last volume level that was active in that zone during the previous operating session.

MUTE LEVEL   (FULL, -40dB, -30dB, -20dB, -10dB)

MUTE LEVEL establishes the amount of attenuation that occurs in the Main Zone whenever the Mute button is pressed. When set to FULL, the Main Zone volume level will be fully attenuated.

ZONE PWR ON   (LAST LVL, -80 to +6dB)

ZONE PWR ON establishes the volume level that will be active in Zone 2 whenever the unit is powered on. When set to LAST LVL, Zone 2 will power on at the last volume level that was active in that zone during the previous operating session.

REC PWR ON   (LAST LVL, -80 to +6dB)

REC PWR ON establishes the volume level that will be active in the Record Zone whenever the unit is powered on. When set to LAST LVL, the Record Zone will power on at the last volume level that was active in that zone during the previous operating session.

```
MAIN MENU                    SETUP                      TRIGGER SETUP              TRIGGER 1 SETUP

MODE ADJUST                  INPUTS                     TRIGGER 1    PROGRAM       REMOTE CONTROL    OFF
AUDIO CONTROLS               SPEAKERS                   TRIGGER 2    PROGRAM       DVD1              OFF
SETUP                        REAR PANEL CONFIG                                     DVD2              OFF
                             DISPLAYS                   Selecting either TRIGGER 1 LD                OFF
                             VOLUME CONTROLS            or TRIGGER 2 accesses an   TV                OFF
                             TRIGGERS                   identical TRIGGER SETUP    SAT               OFF
                             LOCK OPTIONS               menu.                      VCR               OFF
                                                                                   CD                OFF
                                                                                   PVR               OFF
                                                                                   GAME              OFF
                                                                                   TAPE              OFF
                                                                                   TUNER             OFF
                                                                                   AUX               OFF
                                                                                   ZONE2 INPUTS      OFF
                                                                                   RECORD INPUTS     OFF
```
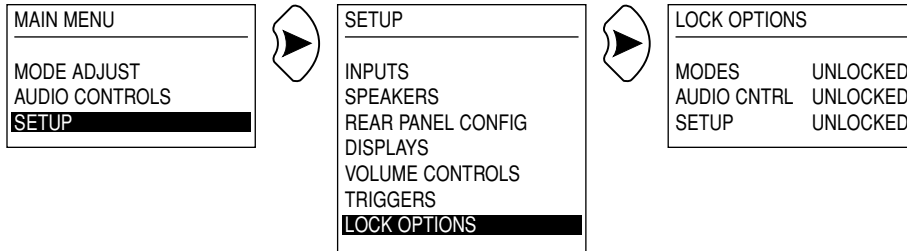
TRIGGER SETUP

There are three 12V DC TRIGGER OUTPUTS on the rear panel that can be used to control other devices with compatible trigger inputs. The trigger labelled PWR is not configurable, and is always on when the unit is on and always off when the unit is in standby or off. The TRIGGER OUTPUTS labelled 1 and 2 represent the two configurable triggers on the unit, and can be programmed for REMOTE or PROGRAM operation in the TRIGGER SETUP menu. Selecting the TRIGGERS option on the SETUP menu prompts the selection of the desired TRIGGER for configuration. Selecting either TRIGGER 1 or TRIGGER 2 accesses the TRIGGER SETUP menu (pictured at the right). Use the up and down MENU arrows to scroll through the menu items. Press the right MENU arrow to select the highlighted MENU arrow, then use the up and down MENU arrows to toggle between the ON and OFF settings. Press the left MENU arrow to select the desired setting.

REMOTE OPERATION

When the REMOTE parameter is set to ON, the selected trigger will be configured for REMOTE operation. The unit will ignore all other parameter settings on the TRIGGER SETUP menu. Use the remote control commands described on page 2-12 to activate and deactivate the selected trigger. When the REMOTE parameter is set to OFF, the selected trigger will automatically be configured for PROGRAM operation.

PROGRAM OPERATION

When the REMOTE parameter is set to OFF, the selected trigger will automatically be configured for PROGRAM operation. Triggers can be activated upon the selection of associated Main Zone inputs, Zone 2 input selection, Record Zone input selection, and Main Zone listening modes. (Triggers cannot be associated with individual inputs in Zone 2 or the Record Zone.)

```
FILM              ON
TV                ON
MUSIC             ON
PL II THX         ON
PRO LOGIC II      ON
PL II MUSIC       ON
PRO LOGIC         ON
2-CHANNEL         OFF
PARTY             OFF
MONO              ON
MONO LOGIC        ON
MONO SURROUND     ON
5.1 FILM          ON
5.1 TV            ON
5.1 MUSIC         ON
5.1 THX SUR EX    ON
DIGITAL           ON
5.1 2-CHANNEL     OFF
5.1 MONO          ON
5.1 MONO LOGIC    ON
5.1 MONO SURR     ON
dts es FILM       ON
dts es MUSIC      ON
dts es THX        ON
dts es            ON
dts es 2-CHAN     OFF
```

```
MAIN MENU              ▶        SETUP                  ▶        LOCK OPTIONS
                                                                 
MODE ADJUST                     INPUTS                           MODES          UNLOCKED
AUDIO CONTROLS                  SPEAKERS                         AUDIO CNTRL    UNLOCKED
SETUP                           REAR PANEL CONFIG                SETUP          UNLOCKED
                                DISPLAYS
                                VOLUME CONTROLS
                                TRIGGERS
                                LOCK OPTIONS
```

Note:

Locking settings in the MODE ADJUST, AUDIO CONTROLS, and SETUP menus will prevent accidental changes. These menus can be unlocked at any time to adjust settings.

LOCK OPTIONS

The LOCK OPTIONS menu can be used to lock and unlock settings in the three primary menus: MODE ADJUST, AUDIO CONTROLS, and SETUP.

Parameter	Default Value	Values
MODES	UNLOCKED	LOCKED, UNLOCKED
AUDIO CNTRL	UNLOCKED	LOCKED, UNLOCKED
SETUP	UNLOCKED	LOCKED, UNLOCKED

MODES   (LOCKED, UNLOCKED)

MODES controls MODE ADJUST menu settings. When set to LOCKED, these settings cannot be adjusted, with the exception of the SURROUND EX parameter on the 5.1 THX SURROUND EX or 5.1 THX menu. This parameter setting can still be toggled by pressing the THX button on the remote control when the SHIFT command bank is active. When set to UNLOCKED, these settings can be adjusted.

AUDIO CNTRL   (LOCKED, UNLOCKED)

AUDIO CNTRL controls AUDIO CONTROLS menu settings. When set to LOCKED, these settings cannot be adjusted. When set to UNLOCKED, these settings can be adjusted.

SETUP   (LOCKED, UNLOCKED)

SETUP controls SETUP menu settings. When set to LOCKED, these settings cannot be adjusted, with the exception of the STATUS parameters on the ON-SCREEN DISPLAY and FRONT PANEL DISPLAY menus. These parameters can still be set using the FP, BLUE, and OSD buttons on the remote control. When set to UNLOCKED, all SETUP menu settings can be adjusted.

4

The AUDIO CONTROLS Menu

AUDIO CONTROLS

```
AUDIO CONTROLS

BASS              +0.0dB
TREBLE            +0.0dB
TILT EQ           +0.0dB
LOUDNESS              ON
BALANCE             <|>
FADER               <|>
ZONE2 BALANCE       <|>
RECORD BALANCE      <|>
```

Selecting AUDIO CONTROLS on the MAIN MENU accesses the AUDIO CONTROLS menu, which contains adjustable parameters. Use the up and down MENU arrows to scroll through the complete list. Press the right MENU arrow to select the highlighted parameter for adjustment. Press the left MENU arrow to return to the MAIN MENU.

Parameter	Default Value	Values
BASS	+0.0dB	-6.0 to +6.0dB
TREBLE	+0.0dB	-6.0 to +6.0dB
TILT EQ	+0.0dB	-3.0 to +3.0dB
LOUDNESS	ON	ON, OFF
BALANCE	<|>	L<, <|>, >R *
FADER	<|>	B<, <|>, >F *
ZONE2 BALANCE	<|>	L<, <|>, >R *
RECORD BALANCE	<|>	L<, <|>, >R *

Scale shown below. When FADER is selected, the L will be replaced by a B and the R will be replaced by an F.

```
L                                              R
   |                    ||                     |
   |_____||_____|
   |                    ||                     |
```
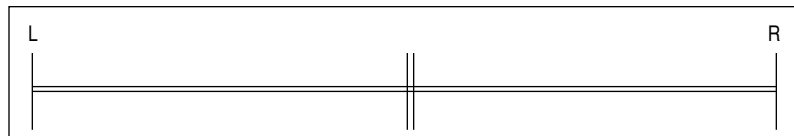
BASS   (-6.0 to +6.0dB)

AUDIO CONTROLS ▷ BASS

BASS controls the amount of low-frequency boost or cut applied to the FRONT L/R, CENTER, SUBWOOFER L/R, and LFE outputs. When BASS is selected, a horizontal graph will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the -6.0 to +6.0dB parameter range. Press the up and down MENU arrows to increase and decrease the setting in 0.5dB increments. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

The graph pictured below shows the frequency response of all BASS settings.
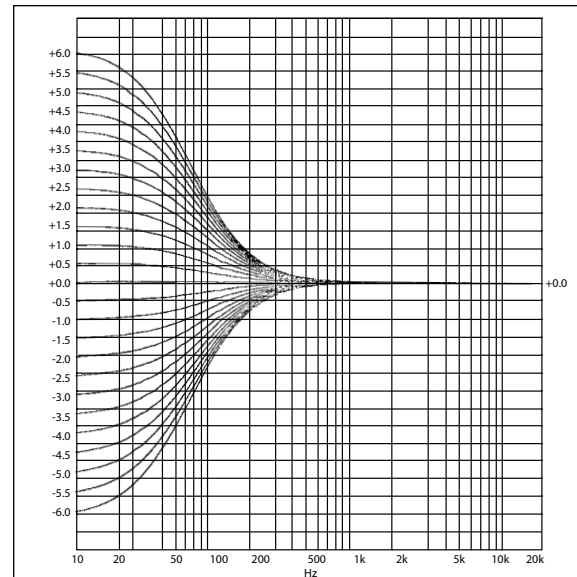
TREBLE   (-6.0 to +6.0dB)

AUDIO CONTROLS ▷ TREBLE

TREBLE controls the amount of boost or cut applied to the FRONT L/R and CENTER outputs. When TREBLE is selected, a horizontal graph will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the -6.0 to +6.0dB parameter range. Press the up and down MENU arrows to increase and decrease the setting in 0.5dB increments. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

The graph pictured below shows the frequency response of all TREBLE settings.
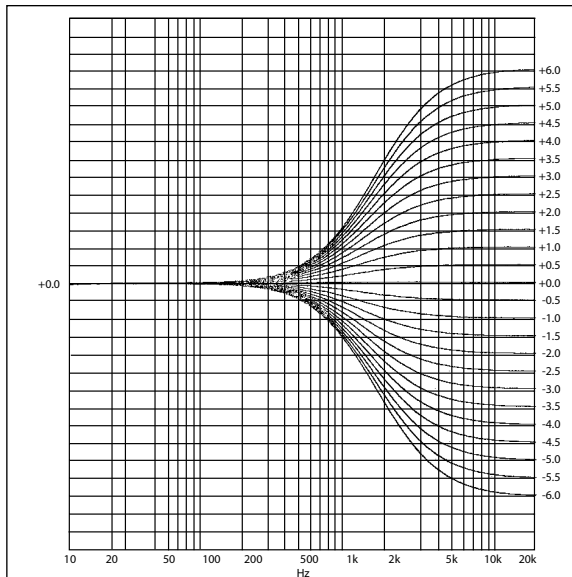
TILT EQ   (-3.0 to +3.0dB)

AUDIO CONTROLS ▷ TILT EQ

TILT EQ controls the amount of tilt equalization applied to the FRONT L/R, CENTER, SUBWOOFER L/R, and LFE outputs. When TILT EQ is selected, a horizontal graph will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the -3.0 to +3.0dB parameter range. Press the up and down MENU arrows to increase and decrease the setting in 0.5dB increments. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

TILT EQ affects the entire frequency spectrum with a hinge point at 1kHz. As it is increased, frequencies above 1kHz are boosted, while frequencies below 1kHz are simultaneously cut. As it is decreased, frequencies above 1kHz are cut, while frequencies below 1kHz are simultaneously boosted. The graph pictured below shows the frequency response of all TILT EQ settings.
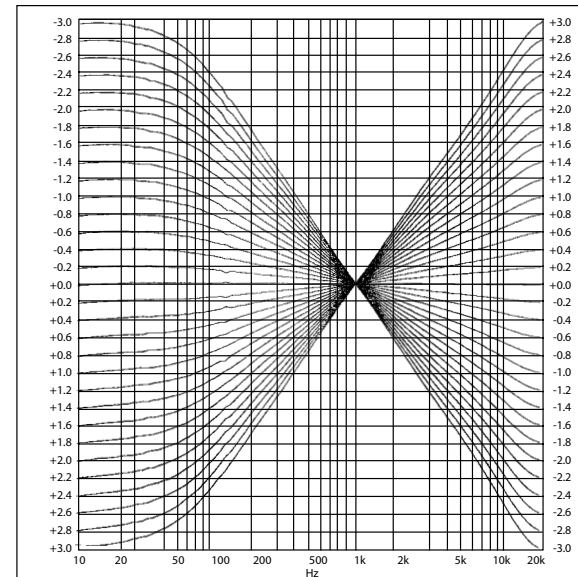
LOUDNESS   (ON, OFF)

AUDIO CONTROLS ▷ LOUDNESS

LOUDNESS controls the amount of low-frequency boost that is automatically applied to the FRONT L/R, CENTER, SUBWOOFER L/R, and LFE outputs. When set to ON, loudness compensation is automatically applied based on the current volume level. As volume is decreased, the amount of boost is automatically increased. The loudness contour is optimized for sources calibrated to Dolby reference levels. When set to OFF, loudness compensation is not applied.

The graph pictured below shows the frequency response that is automatically applied when Main Zone volume is adjusted.
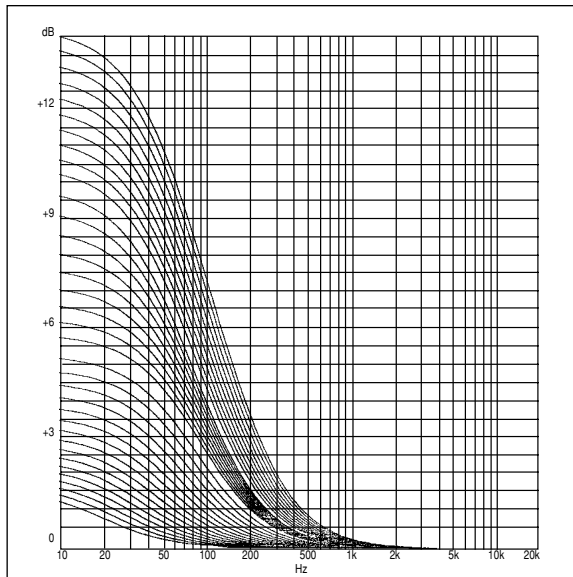
BALANCE

AUDIO CONTROLS ▷ BALANCE

BALANCE controls the left-to-right balance of the Main Zone. When BALANCE is selected, a horizontal graph (pictured on page 4-2) will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the entire parameter range. Press the up MENU arrow to move the setting toward the right, and the down MENU arrow to move the setting toward the left. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

FADER

AUDIO CONTROLS ▷ FADER

FADER controls the front-to-back balance of the Main Zone. When FADER is selected, a horizontal graph (pictured on page 4-2) will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the entire parameter range. Press the up MENU arrow to move the setting forward, and the down MENU arrow to move the setting back-ward. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

ZONE2 BALANCE

AUDIO CONTROLS ▷ ZONE2 BALANCE

ZONE2 BALANCE controls the left-to-right balance of the ZONE2 AUDIO OUTPUTS. When ZONE2 BALANCE is selected, a horizontal graph (pictured on page 4-2) will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the entire parameter range. Press the up MENU arrow to move the setting toward the right, and the down MENU arrow to move the setting toward the left. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

RECORD BALANCE

AUDIO CONTROLS ▷ RECORD BALANCE

RECORD BALANCE controls the left-to-right balance of the RECORD AUDIO OUTPUTS. When RECORD BALANCE is selected, a horizontal graph (pictured on page 4-2) will appear on the screen below the parameter. This graph illustrates the position at which the current setting falls within the entire parameter range. Press the up MENU arrow to move the setting toward the right, and the down MENU arrow to move the setting toward the left. Press the left MENU arrow to close the graph and return to the AUDIO CONTROLS menu.

5

The MODE ADJUST Menu

MODE ADJUST

MODE ADJUST
⑤ FILM
⑤ TV
⑤ MUSIC
ⓄⓄ PL II T̲H̲X̲
ⓄⓄ PRO LOGIC II
ⓄⓄ PL II MUSIC
ⓄⓄ PRO LOGIC
2-CHANNEL
PARTY
MONO
MONO LOGIC
MONO SURROUND
5.1 ⑤ FILM
5.1 ⑤ TV
5.1 ⑤ MUSIC
5.1 T̲H̲X̲ SUR EX
ⓄⓄ DIGITAL
5.1 2-CHANNEL
5.1 MONO
5.1 MONO LOGIC
5.1 MONO SURR
dts⁵ ⑤ FILM
dts⁵ ⑤ MUSIC
dts⁵ T̲H̲X̲
dts⁵
dts⁵ 2-CHAN
5.1 BYPASS
2CH BYPASS

MODE ADJUST

Selecting MODE ADJUST on the MAIN MENU accesses the MODE ADJUST menu, which appears highlighting the name of the active listening mode. Use the up and down MENU arrows to scroll through the complete list of listening modes. Press the right MENU arrow to select the highlighted listening mode for configuration. Press the left MENU arrow to return to the MAIN MENU.

All listening modes can be selected from the MODE ADJUST menu. Selecting the desired listening mode accesses a menu containing specific options and parameters that can be adjusted to customize the selected mode. These menus are pictured on pages A-10 and A-11. Other methods of listening mode selection are reviewed on pages 2-17 and 2-18.

LISTENING MODE DESCRIPTIONS

LOGIC7 FILM

| MODE ADJUST | ▷ | ⑤ FILM |

- A proprietary Lexicon listening mode.
- Designed for playback of 2-channel stereo or matrix encoded stereo film sources.

- Derives seven channels from 2-channel input types.
- Derives full-frequency stereo surrounds, realistically increasing the perceived width of the listening space. With side and rear speakers selected, LOGIC7 FILM also increases the perceived length and sense of envelopment of the listening space.
- Provides remarkable improvement compared to other decoders.
- Recommended for 2-channel film sources, even when only one pair of surround speakers is selected.

Parameter	Default Value	Values
AUTO AZIMUTH	ON	ON, OFF
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
RE-EQUALIZER	ON	ON, OFF
SOUND STAGE	REAR	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	15.3kHz	500Hz to 20.0kHz, OFF
REAR DLY OFFSET	15ms	0 to 30ms
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

LOGIC7 TV

MODE ADJUST ▶ ☐7 TV

- A proprietary Lexicon listening mode.
- Designed for playback of 2-channel stereo or matrix encoded stereo TV sources.
- Based on LOGIC7 FILM, but specifically tailored for TV sources.
- Recommended for 2-channel TV sources, even when only one pair of surround speakers is selected.

Parameter	Default Value	Values
AUTO AZIMUTH	ON	ON, OFF
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
FRONT STEERING	MUSIC	OFF, MUSIC, FILM
RE-EQUALIZER	OFF	ON, OFF
SOUND STAGE	REAR	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	15.3kHz	500Hz to 20.0kHz, OFF
REAR DLY OFFSET	15ms	0 to 30ms
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

LOGIC7 MUSIC

MODE ADJUST ▶ ☐7 MUSIC

- A proprietary Lexicon listening mode.
- Designed for playback of 2-channel stereo or matrix encoded stereo music sources.
- Based on LOGIC7 FILM, but specifically tailored for music sources.
- Recommended for 2-channel music sources, even when only one pair of surround speakers is selected.

Parameter	Default Value	Values
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
FRONT STEERING	MUSIC	OFF, MUSIC, FILM
SOUND STAGE	NEUTRAL	FRONT, NEUTRAL, REAR
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
SURR ROLLOFF	15.3kHz	500Hz to 20.0kHz
REAR DLY OFFSET	15ms	0 to 30ms
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

DOLBY PRO LOGIC II THX

MODE ADJUST ▷ DO PL II THX

- Designed for playback of Dolby Surround encoded sources.

- Utilizes Dolby Pro Logic II to decode five channels from Dolby Surround encoded input types.

- Applies re-equalization and timbre matching. Re-equalization simulates the high-frequency rolloff that occurs in a movie theater as sound travels from the front speakers to the listeners. Most films are mixed for movie theaters, and may sound too bright when played back in a home theater without re-equalization. Timbre matching helps minimize the timbre differences between the front and side channels, which results in smoother sound movements between these channels.

- Recommended for home theaters with a THX-certified speaker system.

Parameter	Default Value	Values
RE-EQUALIZER	ON	ON, OFF
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

DOLBY PRO LOGIC II

MODE ADJUST ▷ DOPRO LOGIC II

- Designed for playback of Dolby Surround encoded sources.

- Decodes five channels from Dolby Surround encoded input types.

- Similar to DOLBY PRO LOGIC, except it utilizes full-frequency stereo surround channels to realistically increase the perceived width of the listening space.

- Provides impressive enhancement compared to DOLBY PRO LOGIC.

- Appropriate for Dolby Surround encoded film sources.

Parameter	Default Value	Values
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

DOLBY PRO LOGIC II MUSIC

MODE ADJUST ▶ ᗪᗪ PL II MUSIC

- Designed for playback of stereo music sources.
- Identical to DOLBY PRO LOGIC II, except specifically tailored for stereo music sources.

Parameter	Default Values	Default Value
PANORAMA	OFF	ON, OFF
CTR WIDTH	3	MIN, 1 to 6, MAX
DIMENSION	NEUTRAL	FRONT, NEUTRAL, REAR
SURROUND DLY	5ms	0 to 15ms
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

DOLBY PRO LOGIC

MODE ADJUST ▶ ᗪᗪ PRO LOGIC

- Designed for playback of Dolby Surround encoded sources.
- Decodes four channels from Dolby Surround encoded input types.
- Utilizes a mono surround channel with a high-frequency rolloff above 7kHz.
- Available for comparison purposes, particularly with the LOGIC7 FILM and DOLBY PRO LOGIC II listening modes.

Parameter	Default Value	Values
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

2-CHANNEL

MODE ADJUST ▷ 2-CHANNEL

- Designed for playback of stereo sources.
- Sends stereo sources to the FRONT L/R outputs only.
- Available for audio purists and for comparison purposes.

Parameter	Default Values	Default Value
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

PARTY

MODE ADJUST ▷ PARTY

- Designed for playback of stereo sources.
- Sends stereo sources to all channels.
- Recommended for background music.

Parameter	Default Values	Default Value
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

MONO

MODE ADJUST ⊳ MONO

- Designed for playback of mono sources.
- Sends mono sources to the center channel only.

Parameter	Default Value	Values
SUB L/R	+0dB	OFF, -30 to +12dB

An alphabetical listing of parameter descriptions begins on page 5-20.

MONO LOGIC

MODE ADJUST ⊳ MONO LOGIC

- Designed for playback of mono sources.
- Utilizes proprietary Lexicon reverb technology to realistically expand mono input types to utilize all channels, dramatically increasing the perceived length and sense of envelopment of the listening space.

Parameter	Default Value	Values
EFFECT LVL	-9dB	-12 to +6dB
ACADEMY FILTER	ON	ON, OFF
SURR ROLLOFF	3.1kHz	500Hz to 20.0kHz, OFF
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

MONO SURROUND

MODE ADJUST ▷ MONO SURROUND

- Designed for playback of mono sources.
- Sends mono sources to all channels.

Parameter	Default Values	Default Value
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 LOGIC7 FILM

MODE ADJUST ▷ 5.1 ⌧ FILM

- A proprietary Lexicon listening mode.
- Designed for playback of 5.1-channel Dolby Digital film sources.
- Utilizes several techniques to derive seven channels from 5.1-channel input types. With side and rear speakers selected, 5.1 LOGIC7 FILM also increases the perceived length and sense of envelopment of the listening space.
- Provides remarkable improvement compared to other decoders.
- Recommended for 5.1-channel Dolby Digital film sources, even when only one pair of surround speakers is selected.

Parameter	Default Value	Values
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	ON	ON, OFF
REAR DLY OFFSET	15ms	0 to 30ms
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 LOGIC7 TV

MODE ADJUST ▶ **5.1 ⏚ TV**

- A proprietary Lexicon listening mode.

- Designed for playback of 5.1-channel Dolby Digital TV sources.

- Based on 5.1 LOGIC7 FILM, but specifically tailored for TV sources.

- Recommended for 5.1-channel Dolby Digital TV sources, even when only one pair of surround speakers is selected.

Parameter	Default Value	Values
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	OFF	ON, OFF
REAR DLY OFFSET	15ms	0 to 30ms
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 LOGIC7 MUSIC

MODE ADJUST ▶ **5.1 ⏚ MUSIC**

- A proprietary Lexicon listening mode.

- Designed for playback of 5.1-channel Dolby Digital music sources.

- Based on 5.1 LOGIC7 FILM, but specifically tailored for music sources.

- Recommended for 5.1-channel Dolby Digital music sources, even when only one pair of surround speakers is selected.

Parameter	Default Value	Values
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	OFF	ON, OFF
REAR DLY OFFSET	15ms	0 to 30ms
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 THX SURROUND EX or 5.1 THX

`MODE ADJUST` ▶ `5.1 THX SUR EX`

The SURROUND EX parameter activates and deactivates the 5.1 THX SURROUND EX listening mode, provided both side and rear speakers are selected (see page 3-18). The default value of this parameter is ON, which activates the 5.1 THX SURROUND EX listening mode. When set to OFF, the 5.1 THX SURROUND EX listening mode becomes 5.1 THX. Toggling the setting of the SURROUND EX parameter produces low-level clicks in the front speakers.

5.1 THX SURROUND EX

• Designed for playback of Dolby Digital Surround EX encoded sources.

• Similar to 5.1 THX, but utilizes Dolby Pro Logic to decode three surround channels from Dolby Digital Surround EX-encoded input types.

• Applies re-equalization and timbre matching. Re-equalization simulates the high-frequency rolloff that occurs in a movie theater as sound travels from the speakers to the listeners. Most films are mixed for movie theaters, and may sound too bright when played back in a home theater without re-equalization. Timbre matching helps minimize the timbre differences between the front and side channels, which results in smoother sound movements between these channels.

• Recommended for Dolby Digital Surround EX encoded sources.

5.1 THX

• Designed for playback of 5.1-channel Dolby Digital encoded sources.

• Utilizes Dolby Digital to decode 5.1 discrete channels from 5.1 Dolby Digital encoded input types.

• Applies re-equalization, timbre matching, and adaptive decorrelation. Re-equalization simulates the high-frequency rolloff that occurs in a movie theater as sound travels from the front speakers to the listeners. Most films are mixed for movie theaters, and may sound too bright when played back in a home theater without re-equalization. Timbre matching helps minimize the timbre differences between the front and side channels, which results in smoother sound movements between these channels.

Adaptive decorrelation increases the perceived width of the listening space. Since movie theaters utilize surround speaker arrays and most home theaters do not, decorrelation of the mono surround channel increases the perceived width of the surround field in a home theater.

• Recommended for Dolby Digital encoded sources.

Parameter	Default Value	Values
RE-EQUALIZER	ON	ON, OFF
SURROUND EX	ON	ON, OFF
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

DOLBY DIGITAL

MODE ADJUST ▶ DD DIGITAL

- Designed for playback of 5.1 Dolby Digital encoded sources.
- Decodes 5.1 discrete channels from 5.1 Dolby Digital encoded input types. The five main channels are full-frequency. The .1 channel, often referred to as the LFE or subwoofer channel, has a limited frequency range of 120Hz.
- Appropriate for Dolby Digital encoded film sources.

Parameter	Default Value	Values
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 2-CHANNEL

MODE ADJUST ▶ 5.1 2-CHANNEL

- Designed for conversion of 5.1-channel Dolby Digital input types to LOGIC7 encoded 2-channel output types.
- Allows 5.1-channel Dolby Digital sources to be listened to through the front left and right channels.
- Reproduces the original 5.1 performance through playback of LOGIC7 listening modes.
- Recommended for recording purposes.

Parameter	Default Value	Values
CENTER MIX	+0dB	-25 to +5dB
SURROUND MIX	+0dB	-5 to +5dB
CNTR DLY SAMPLES	+0	-127 to +127
MASTER LEVEL	+0dB	-5 to +5dB
COMPRESSION	OFF	AUTO, ON, OFF
LFE MIX	+0.0dB	-20.0 to +0.0dB
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 MONO

MODE ADJUST ▶ **5.1 MONO**

- Designed for playback of Dolby Digital mono sources.

- Sends mono sources to the center channel only.

No parameters are available for the MONO listening mode.

Note:

The 5.1 MONO, 5.1 MONO LOGIC, and 5.1 MONO SURR listening modes are designed for playback of Dolby Digital mono sources. Mono material can be found on both Dolby Digital 1.0 and 2.0 input types. These modes are also available, but not recommended, for 5.1 Dolby Digital sources. The unit will automatically select 5.1 MONO LOGIC when a 1.0 Dolby Digital input type is preset.

5.1 MONO LOGIC

MODE ADJUST ▶ **5.1 MONO LOGIC**

- Designed for playback of Dolby Digital mono sources.

- Utilizes proprietary Lexicon reverb technology to realistically expand Dolby Digital mono sources to utilize all channels, dramatically increasing the perceived length and sense of envelopment of the listening space.

Parameter	Default Value	Values
EFFECT LVL	-9dB	-12 to +6dB
ACADEMY FILTER	ON	ON, OFF
SURR ROLLOFF	3.1kHz	500Hz to 20.0kHz, OFF
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 MONO SURROUND

MODE ADJUST ▶ 5.1 MONO SURR

- Designed for playback of Dolby Digital mono sources.
- Sends mono signals to all channels.

Parameter	Default Value	Values
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

dts(-ES) LOGIC7 film

MODE ADJUST ▶ dts☷ L7 FILM

- A proprietary Lexicon listening mode.
- Designed for playback of 5.1 and 6.1-channel dts(-ES) film sources.
- Utilizes an advanced matrix to derive seven channels from 5.1 or 6.1-channel input types. With side and rear speakers selected, dts(-ES) LOGIC7 FILM increases the perceived length and sense of envelopment of the listening space.
- Provides remarkable improvement compared to other decoders.
- Recommended for 5.1 and 6.1-channel dts(-ES) film sources, even when only one pair of surround speakers is selected.
- The unit will automatically activate ES decoding when a dts-ES input type is identified.

Parameter	Default Value	Values
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
RE-EQUALIZER	ON	ON, OFF
REAR DLY OFFSET	15ms	0 to 30ms
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

dts(-ES) LOGIC7 Music

- A proprietary Lexicon listening mode.
- Designed for playback of 5.1 and 6.1-channel dts(-ES) music sources.
- Based on dts(-ES) LOGIC7 FILM, but specifically tailored for music sources.
- Recommended for 5.1 and 6.1-channel dts(-ES) music sources, even when only one pair of surround speakers is selected.
- The unit will automatically activate ES decoding when a dts-ES input type is identified.

Parameter	Default Value	Values
VOCAL ENHANCE	+0.0dB	+0.0dB, +3.0dB, +6.0dB
5 SPKR ENHANCE	OFF	ON, OFF
BASS ENHANCE	OFF	ON, OFF
REAR DLY OFFSET	15ms	0 to 30ms
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

dts(-ES) THX

- Designed for playback of 5.1 and 6.1-channel dts(-ES)-encoded sources.
- Utilizes dts(-ES) to decode 5.1 or 6.1 discrete channels from dts(-ES) encoded input types.
- Applies re-equalization and timbre matching. Re-equalization simulates the high-frequency rolloff that occurs in a movie theater as sound travels from the speakers to the listeners. Most films are mixed for movie theaters, and may sound too bright when played back in a home theater without re-equalization. Timbre matching helps minimize the timbre differences between the front and side channels, which results in smoother sound movements between these channels.
- Recommended for home theaters with a THX-certified speaker system.
- The unit will automatically activate ES decoding when a dts-ES input type is identified.

Parameter	Default Value	Values
RE-EQUALIZER	ON	ON, OFF
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

dts and dts-ES

`MODE ADJUST` ▶ **dts ES**

• The unit will automatically switch between the dts and dts-ES listening modes, activating ES decoding when a dts-ES input type is identified.

dts

• Designed for playback of 5.1-channel dts encoded sources.

• Decodes 5.1 discrete channels from dts encoded input types. The five main channels are full-frequency. The .1 channel, often referred to as the LFE or subwoofer channel, has a limited frequency range of 120Hz.

• Appropriate for dts encoded film sources.

dts-ES

• Designed for playback of 6.1-channel dts-ES encoded sources.

• Decodes 6.1 channels from dts-ES encoded input types. The six main channels are full-frequency. The surround back channel can be either discrete or matrix encoded. The .1 channel, often referred to as the LFE or subwoofer channel, is filtered above 120Hz.

• Appropriate for dts-ES encoded film sources.

Parameter	Default Value	Values
LFE MIX	+0.0dB	-10.0 to +0.0dB
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

dts(-ES) 2-CHANNEL

`MODE ADJUST` ▶ **dts ES** 2-CHAN

• Designed for conversion of 5.1 or 6.1-channel dts(-ES) input types to LOGIC7 encoded 2-channel input types.

• Allows 5.1 or 6.1-channel dts(-ES) sources to be listened to through the front left and right channels.

• Reproduces the original 5.1 performance through playback of LOGIC7 listening modes.

• Recommended for recording purposes.

• The unit will automatically activate ES decoding when a dts-ES input type is identified.

Parameter	Default Value	Values
CENTER MIX	+0dB	-25 to +25dB
SURROUND MIX	+0dB	-5 to +5dB
CNTR DLY SAMPLES	+0	-127 to +127
MASTER LEVEL	+0dB	-5 to +5db
LFE MIX	+0.0dB	-10.0 to +0.0dB
SUB L/R LVL	+0dB	OFF, -30 to +12dB
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 BYPASS

MODE ADJUST ▷ **5.1 BYPASS**

- Designed for playback of 5.1-channel analog input sources, such as DVD-A or SACD players.

- When selected, the (L) input is sent to the FRONT L output. The (R) input is sent to the FRONT R output. The (C) input is sent to the CENTER output. The (SUB) input is sent to the SUBWOOFER L/R and LFE outputs. The (LS) input is sent to the SIDE and REAR L outputs. The (RS) input is sent to the SIDE and REAR R outputs.

The 5.1 BYPASS listening mode is not available unless, and will be automatically selected when, all of the following conditions are met:

- 5 STEREO & 5.1 ANLG is selected on the REAR PANEL CONFIG menu (see page 3-30).

- The ANALOG IN parameter on the INPUT SETUP menu is set to 5.1 ANALOG (see page 3-6).

- The INPUT SELECT parameter on the MAIN ADV menu is set to either AUTO or ANALOG (see page 3-13). When set to AUTO, no digital input types can be present.

- The ANALOG BYPASS parameter on the MAIN ADV menu is set to ON (see page 3-13).

Parameter	Default Value	Values
OUTPUT LEVELS	See page 5-17 for more information	
CUSTOM	See page 5-17 for more information	

An alphabetical listing of parameter descriptions begins on page 5-20.

2-CHANNEL BYPASS

MODE ADJUST ▷ **2CH BYPASS**

- Designed for playback of 2-channel analog input sources.

- When selected, the input signal bypasses internal processing and bypasses to the FRONT L/R outputs.

The 2CH BYPASS listening mode is not available unless, and will be automatically selected when, all of the following conditions are met:

- The ANALOG IN parameter on the INPUT SETUP menu is set to the connector utilized by the input source (see page 3-6).

- The INPUT SELECT parameter on the MAIN ADV menu is set to either AUTO or ANALOG (see page 3-13). When set to AUTO, no digital input types can be present.

- The ANALOG BYPASS parameter on the MAIN ADV menu is set to ON (see page 3-13).

No parameters are available for the 2CH BYPASS listening mode.

OUTPUT LEVELS

| MODE ADJUST ▷ (LISTENING MODE) ▷ **OUTPUT LEVELS** |

The OUTPUT LEVELS menu contains parameters for adjusting CENTER, SIDE L/R, REAR L/R, SUBWOOFER L/R, and LFE output levels on a per-mode basis.

The OUTPUT LEVELS menu is not available for listening modes that do not accommodate multi-channel outputs, such as MONO. For these listening modes, the OUTPUT LEVELS menu option appears as an output-specific parameter, such as CENTER LVL.

Parameter	Default Value	Values
CENTER	+0dB	OFF, -30 to +12dB
SIDE L/R	+0dB	OFF, -30 to +12dB
REAR L/R	+0dB	OFF, -30 to +12dB
SUB L/R	+0dB	OFF, -30 to +12dB
*LFE	+0dB	OFF, -30 to +12dB

The LFE parameter is only available for 5.1-channel listening modes.

An alphabetical listing of parameter descriptions begins on page 5-20.

When a SYNTHESIS 7CH SETUP is selected, the LFE parameter will appear on the OUTPUT LEVELS menu for the 5.1 THX SURROUND EX or 5.1 THX and dts(-ES) THX listening modes. This parameter only has an effect when the LFE parameter on the CUSTOM SETUP menu is set to ON (page 3-23).

CUSTOM

| MODE ADJUST ▷ (LISTENING MODE) ▷ **CUSTOM** |

The CUSTOM menu can be used to compare modified listening mode versions to their original, factory-default versions.

```
CUSTOM

CUSTOM VS PRESET
RESET MODE
```

CUSTOM VS PRESET

CUSTOM VS PRESET allows comparison listening of the modified and factory-default versions of the selected listening mode. This option is available even when no

```
CUSTOM

CUSTOM VS PRESET
          CUSTOM
```

modifications have been made to the selected listening mode. But the custom and preset versions of the listening mode will sound the same until modifications are made.

Selecting CUSTOM VS PRESET accesses the pulldown menu pictured at the right. Pressing the up and down MENU arrows toggles between the modified and factory-default versions of the selected listening mode. The message "CUSTOM" appears when the modified version of the listening mode is selected, and the message "PRESET" appears when the factory-default version of the listening mode is selected. Press the left MENU arrow to close the CUSTOM VS PRESET pulldown menu.

RESET MODE

RESET MODE restores the selected listening mode to its factory-default condition. Selecting this option accesses the pulldown menu pictured at the right. Press the right MENU arrow to restore the factory-default

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CUSTOM

CUSTOM VS PRESET
PRESS RIGHT ➜
TO RESTORE MODE
```

version of the selected listening mode. Press the left MENU arrow to exit the RESET MODE pulldown menu without restoring the selected listening mode to its factory-default settings.

STATUS MENUS

(SHIFT) *then* (STAT)
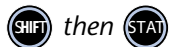
Unlike other menus, the listening mode STATUS menu can only be accessed with the above remote control command sequence. Press the SHIFT button, then the STAT button to check the STATUS of the active listening mode at any time. Press the STAT button again to exit the menu. Use the MENU arrows for front panel display viewing of STATUS menu parameters.

STATUS menu parameters provide current information about the active input and the unit, and cannot be adjusted. These parameters will vary depending on whether a 2-channel, Dolby Digital, or dts(-ES) input type is present. 5.1 BYPASS and 2CH BYPASS input types have individual STATUS menus. Additionally, the 5.1 ANALOG STATUS menu will appear when certain conditions are met.

Level Meters

All listening mode STATUS menus feature level meters, which indicate fluctuating input levels in the left (L), center (C), right (R), surround left (SL), surround right (SR), surround back (SB), and LFE channels. Different combinations of level meters appear on each STATUS menu. Only the L and right R level meters appear on the 2CH STATUS menu. The SB level meter will not appear unless a 6.1-channel input type is present.

All level meters appear in combinations of green, yellow, and red on the blue-screen background. Green indicates normal input levels; yellow indicates the onset of overload; and red indicates overload. The yellow arrow to the right of each bar indicates the current input peak level.

2CH STATUS MENU

The 2CH STATUS menu will appear when a 2-channel listening mode is selected. It features L and R level meters (see previous column for more information).

Parameter	Values
INPUT	The name of the selected input
MODE	The name of the selected listening mode
INPUT TYPE	ANLG, DOLBY D, PCM
SAMPLE RATE	44.1kHz, 48kHz, 88.2kHz, 96kHz

An alphabetical listing of parameter descriptions begins on page 5-20.

2CH BYPASS STATUS MENU

The 2CH BYPASS STATUS menu will appear when the 2CH BYPASS listening mode is selected. It features L and R level meters (see previous column for more information).

Parameter	Values
INPUT	The name of the selected input
MODE	2CH BYPASS
INPUT TYPE	BYP

An alphabetical listing of parameter descriptions begins on page 5-20.

DOLBY DIGITAL STATUS MENU

The DOLBY DIGITAL STATUS menu will appear when a Dolby Digital listening mode is selected. It features L, C, R, SL, SR, and LFE level meters (see page 5-18 for more information).

Parameter	Values
CHANNELS	3/2.1, 3/2, 3/1, 2/2, 2/1, 2/0, 1/0
ENCODING	MATRIX, NONE
SAMPLE RATE	48kHz
REF OFFSET	-4dB

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 BYPASS STATUS MENU

The 5.1 BYPASS STATUS menu will appear when the 5.1 BYPASS listening mode is selected. It features L, C, R, SL, SR, and LFE level meters (see page 5-18 for more information).

Parameter	Values
INPUT	The name of the selected input
MODE	5.1 BYPASS
INPUT TYPE	BYP

An alphabetical listing of parameter descriptions begins on page 5-20.

5.1 ANALOG STATUS MENU

The 5.1 ANALOG STATUS menu features L, C, R, SL, SR, and LFE level meters (see page 5-18 for more information). It will appear when all of the following conditions are met:

• 5 STEREO & 5.1 ANLG is selected on the REAR PANEL CONFIG menu (see page 3-30).

• The ANALOG IN parameter on the INPUT SETUP menu is set to 5.1 ANALOG (see page 3-6).

• The INPUT SELECT parameter on the MAIN ADV menu is set to either AUTO or ANALOG (see page 3-13). When set to AUTO, no digital input types can be present.

• The ANALOG BYPASS parameter on the MAIN ADV menu is set to OFF (see page 3-13).

Parameter	Values
INPUT	The name of the selected input
MODE	The name of the selected listening mode
INPUT TYPE	ANLG
SAMPLE RATE	96kHz

An alphabetical listing of parameter descriptions begins on page 5-20.

dts STATUS MENU

The dts STATUS menu will appear when a dts(-ES) listening mode is selected. It features L, C, R, SL, SR, SB, and LFE level meters (see page 5-18 for more information). The SB level meter will not appear unless a 6.1-channel input type is selected.

Parameter	Values
INPUT	The name of the selected input
MODE	The name of the selected listening mode
CHANNELS	3/3.1, 3/2.1
ES DECODE	MATRIX, DISCRETE, OFF
SAMPLE RATE	44.1kHz, 48kHz

An alphabetical listing of parameter descriptions begins on page 5-20.

MODE PARAMETER DESCRIPTIONS

5 SPKR ENHANCE   (ON, OFF)

5 SPKR ENHANCE (Five Speaker Enhance) simulates seven speaker playback through a five speaker system. When set to ON, the unit provides an increased sense of spaciousness and envelopment through two surround speakers. This enhancement is most noticeable when these surround speakers are positioned to the side of the listening position, or when the listening position is located against the rear wall. The effectiveness of this parameter varies within the listening space. For optimum results, position the side speakers to the left and right of the primary listening position.

ACADEMY FILTER   (ON, OFF)

When set to ON, ACADEMY FILTER restores the proper tonal balance of older mono film sources, which generally have much narrower frequency responses than current mono film sources.

AUTO AZIMUTH   (ON, OFF)

AUTO AZIMUTH maximizes the output accuracy of the listening mode. When set to ON, the unit continually monitors the 2-channel input signal. It automatically adjusts the relative level and time offset of the input channels to ensure that signals are sent to the appropriate channels with maximum separation. When set to OFF, the accuracy of the listening mode varies depending on the input source. This parameter should be set to ON for film and TV sources, and OFF for music sources.

BASS ENHANCE   (ON, OFF)

BASS ENHANCE creates stereo bass, which results in low-frequency reproduction that is less localizable and more realistic in the listening space. When set to ON, the unit processes the low frequencies sent to the FRONT L/R, SIDE L/R, and REAR L/R outputs to create stereo low frequencies. This also includes the SUBWOOFER L/R outputs when the SUB L/R parameter on the CUSTOM SETUP menu is set to STEREO.

The crossover setting of the CENTER parameter on the CUSTOM SETUP menu is critical to the effectiveness of BASS ENHANCE . It is recommended to set the CENTER parameter to 120Hz and the SUB L/R parameter to STEREO (if utilizing two subwoofers) to maximize the effectiveness of BASS ENHANCE. If SUB L/R is set to MONO, it is recommended to use FRONT L/R, SIDE L/R, or REAR L/R speakers that are capable of reproducing frequencies at 40Hz or lower. See page 3-18 for more information about CUSTOM SETUP menu parameters.

Note:

BASS ENHANCE results will vary depending on room acoustics. Most listening spaces will have a 2-3dB reduction in low frequency energy when BASS ENHANCE is set to ON. Use the BASS control to compensate for this reduction.

CENTER   (OFF, -30 to +12dB)

CENTER adjusts the output level of the center channel.

CENTER MIX   (-25 to +5dB)

CENTER MIX adjusts the relative level of the center channel that is encoded into the front left and right channels. The recommended settings are +0dB for film sources and -5dB for music sources.

CHANNELS   (3/3.1, 3/2.1, 3/2, 3/1, 2/2, 2/1, 2/0, 1/0)

CHANNELS indicates the number of channels present in the input type. On the DOLBY DIGITAL STATUS menu, the value of the CHANNELS parameter will be 3/2.1, 3/2, 3/1, 2/2, 2/1, 2/0, or 1/0. On the dts STATUS menu, the value of the CHANNELS parameter will be 3/3.1 or 3/2.1. The first digit indicates the number of front channels, the digit after the / represents the number of surround channels, and the .1 indicates the presence of the LFE channel.

CNTR DLY SAMPLES   (-127 to +127)

CNTR DLY SAMPLES (Center Delay Samples) adjusts the relative time offset of the CENTER output that is encoded into the FRONT L/R outputs. The recommended setting for the CNTR DLY SAMPLES parameter is +0, unless the CENTER channel is not properly timed and the value of the error is known.

COMPRESSION   (AUTO, ON, OFF)

COMPRESSION increases dialog intelligibility at lower volume levels. When set to AUTO, Dolby Digital input types are automatically compressed based on volume level. When set to ON, full compression is applied regardless of volume level. When set to OFF, compression is not applied. This parameter should be set to AUTO or ON for Dolby Digital sources that are listened to at lower volume levels.

CTR WIDTH   (MIN, 1 to 6, MAX)

CTR WIDTH (Center Width) adjusts the center image. When set to MIN, the center image is heard from only the center speaker. When set to MAX, the center image is heard from only the front left and right speakers as a "phantom" center image. When set on the 1 to 6 scale, the center image is heard in various combinations of all three front speakers.

CUSTOM

See page 5-17 for information about CUSTOM.

DIMENSION   (FRONT, NEUTRAL ,REAR)

DIMENSION adjusts the relative balance of the soundfield, which can be useful to achieve a more suitable balance from all speakers with certain recordings. When set to FRONT, the soundfield is balanced toward the front of the listening space. When set to NEUTRAL, the soundfield is balanced at the center of the listening space. When set to REAR, the soundfield is balanced toward the rear of the listening space.

EFFECT LVL   (-12 to +6dB)

EFFECT LVL (Effect Level) adjusts the amount of ambience applied to the listening mode.

ENCODING   (MATRIX, NONE)

ENCODING indicates the presence (MATRIX) or absence (NONE) of Dolby Surround encoding.

ES DECODE   (DISCRETE, MATRIX, OFF)

ES DECODE indicates the presence or absence of dts-ES decoding. When the parameter value is DISCRETE, the unit is decoding a 6.1-channel discrete input type. When the parameter value is MATRIX, the unit is decoding a 5.1-channel input type with a matrix encoded sixth channel. When the parameter value is OFF, the unit is decoding a standard dts (non-ES) input type.

FRONT STEERING   (OFF, MUSIC, FILM)

FRONT STEERING adjusts front steering to match the input source. When set to FILM, maximum front steering is applied. When set to MUSIC, minimal front steering is applied. When set to OFF, no front steering is applied. This parameter should be set to FILM for film sources and to MUSIC or OFF for music sources.

INPUT   (INPUT)

INPUT indicates the name of the selected input.

INPUT TYPE   (ANLG, DOLBY D, PCM)

INPUT TYPE indicates the current input type. When the parameter value is ANLG, a 2-channel analog audio input source is present. When the parameter value is PCM, a 2-channel digital audio input source is present. When the parameter value is DOLBY D, a Dolby Digital audio input source is present.

LFE   (OFF, -30 to +12dB)

LFE (Low-frequency Effects) adjusts the output level of the LFE output.

LFE MIX   (-20.0 or -10.0 to +0.0dB)

LFE MIX adjusts the level of the LFE channel (the .1 channel in a 5.1 or 6.1-channel source) that is sent to the SUBWOOFER L/R outputs. Low frequencies from as many as five other channels may be combined with the LFE channel to create the SUBWOOFER L/R output signal, significantly raising subwoofer output levels. Careful adjustment of this parameter allows achievement of proper tonal balance and reduces the risk of subwoofer overload.

MASTER LEVEL   (-5 to +5dB)

MASTER LEVEL adjusts the output level of LOGIC7 encoded 2-channel signals.

MODE   (MODE)

MODE indicates the name of the selected listening mode.

OUTPUT LEVELS

See page 5-17 for information about OUTPUT LEVELS.

PANORAMA   (ON, OFF)

When set to ON, PANORAMA extends the front stereo image to include the surround speakers for a "wraparound" effect with side wall imaging.

RE-EQUALIZER   (ON, OFF)

RE-EQUALIZER simulates the high-frequency rolloff that occurs in a movie theater as sound travels from speakers to the listeners. When set to ON, the unit applies a high-frequency rolloff. When set to OFF, the unit does not apply a high-frequency rolloff. Most films are mixed for movie theaters, and may sound too bright when played back in home theaters without re-equalization. RE-EQUALIZER should be set to ON for such film sources.

REAR DLY OFFSET   (0 to 30ms)

REAR DLY OFFSET (Rear Delay Offset) increases the perceived depth of the listening space by delaying the arrival time of signals from the rear speakers. This time delay can be set within a range of 0 to 30ms. Increasing this time is recommended when using SIDE L/R and REAR L/R speakers that are located close together, or when a greater sense of depth is desired in the listening space.

REAR L/R   (OFF, -30 to +12dB)

REAR L/R (Rear Left/Right) adjusts the output level of the REAR L/R outputs.

REF OFFSET   (-4dB)

REF OFFSET (Reference Offset) indicates the dialog normalization value that is present in Dolby Digital input types.

SAMPLE RATE   (44.1kHz, 48kHz, 88.2kHz, 96kHz)

SAMPLE RATE indicates the sample rate of the input type.

SIDE L/R   (OFF, -30 to +12dB)

SIDE L/R (Side Left/Right) can be used to adjust the output level of the SIDE L/R outputs.

SOUND STAGE   (FRONT, NEUTRAL, REAR)

SOUND STAGE dynamically adjusts the relative balance of the outputs when no surround signals are present. When set to FRONT, the SIDE L/R and REAR L/R outputs are attenuated, shifting the perceived balance of the sound field to the front of the listening space. When set to NEUTRAL, the SIDE L/R and REAR L/R outputs are attenuated slightly, shifting the perceived balance of the sound field to the center of the listening space. When set to REAR, the SIDE L/R and REAR L/R outputs are not attenuated, preserving the intended balance of the sound field.

SUB L/R and SUB L/R LVL   (OFF, -30 to +12dB)

SUB L/R (Subwoofer Left/Right) and SUB L/R LVL (Subwoofer Left/Right Level) adjust the output level of the SUBWOOFER L/R outputs.

SURR ROLLOFF   (500Hz to 20.0kHz, OFF)

SURR ROLLOFF (Surround Rolloff) simulates the high frequency rolloff that occurs in real spaces. When set within its 500Hz to 20kHz range, the unit applies a high-frequency rolloff to the SIDE L/R and REAR L/R outputs. When set to OFF, the unit does not apply this high-frequency rolloff.

SURROUND DLY   (0 to 15ms)

SURROUND DLY (Surround Delay) increases the perceived depth of the listening space by delaying the arrival time of the SIDE L/R and REAR L/R outputs. This time delay can be set within a range of 0 to 15ms. Increasing this time is recommended when a greater sense of depth is desired in the listening space.

SURROUND EX   (ON, OFF)

SURROUND EX activates and deactivates the 5.1 THX SURROUND EX listening mode, provided both side and rear speakers are selected (see page 3-18). The default value of the SURROUND EX parameter is ON, which activates 5.1 THX SURROUND EX. When set to OFF, the 5.1 THX SURROUND EX listening mode becomes 5.1 THX. (See page 5-10 for more information.) Toggling the setting of the SURROUND EX parameter produces low-level clicks in the front speakers.

SURROUND MIX   (-5 to +5dB)

SURROUND MIX adjusts the relative level of the surround channels that are encoded into the FRONT L/R outputs. The recommended setting is +2 to +3dB for all input types.

VOCAL ENHANCE   (+0.0dB, +3.0dB, +6.0dB)

VOCAL ENHANCE adjusts the level of dialog boost in the CENTER output. Increasing this level is recommended for listening at lower volume levels or for increasing dialog intelligibility.

6

Troubleshooting and Maintenance

TROUBLESHOOTING

Note:

- *The SDP-40 does not support MPEG input types.*
- *Some DVD players will produce audio artifacts when switching audio formats.*

THE UNIT DOES NOT POWER ON.

1. Attempt to power the unit on with both ⏻ (standby) buttons, the one on the front panel, and the one on the remote control.

2. Check the line cord to ensure a good connection between the electrical outlet and the AC input connector. Make sure the rear panel power switch is set to on. (See pages 2-4 and 2-7 for rear panel illustrations.)

THE REMOTE CONTROL DOESN'T WORK.

1. Make sure the front panel IR Receiver window is not obstructed (see pages 2-2 and 2-6 for illustrations). The remote control must be in line-of-sight with this receiver for proper operation. If the unit is placed inside a glass cabinet, smoked glass will reduce the range of the remote control.

2. Make certain the batteries are inserted correctly with the proper polarity. Are the batteries low on power? When the they are, the remote control will enter a low-voltage condition that prevents it from operating the unit. Operation will be restored when new batteries are installed.

THE UNIT IS ON, BUT THERE IS NO AUDIO.

1. Make sure the full mute setting is not activated. The message "FULL MUTE ON" will appear in the top-left corner of the on-screen and front panel displays when the full mute setting is activated. Press the Mute button or adjust the volume level to deactivate the full mute setting.

2. Increase the volume level to make sure it is set to an audible level.

3. Check the STATUS menu to ensure a signal is coming into the unit. (Press SHIFT, then STAT on the remote control to access the STATUS menu.)

4. Make sure the associated power amplifier(s) are powered on.

THE UNIT IS ON, BUT THERE IS NO VIDEO.

1. Check the video cables, particularly the S-video cables, to ensure good connections.

2. Check the VIDEO IN and COMPONENT IN parameters on the INPUT SETUP menu (see pages 3-8 and 3-9). Make sure the appropriate connector is assigned to the selected input.

DIALOG SOUNDS MUFFLED.

1. If the system does not include a center channel, make sure the CENTER parameter on the CUSTOM SETUP menu is set to NONE (see page 3-20).

A HUMMING SOUND IS PRESENT IN THE AUDIO.

1. Disconnect the cable television connector (if present) from the wall outlet. If this eliminates the humming sound, an isolation device is required. Contact the cable provider for assistance.

2. Disconnect source components to isolate the problem. Once the problematic component is identified, make sure it is properly grounded and connected to the same electrical circuit as the SDP-40.

RF INTERFERENCE IS PRESENT IN THE AUDIO OR VIDEO.

1. Move antennas away from the unit.

2. Move RF emitting devices away from the unit.

3. Replace unshielded cables with shielded cables wherever possible.

THE UNIT IS EXHIBITING ERRATIC BEHAVIOR.

1. Power the rear panel power switch off. Wait 10 seconds. Power the rear panel power switch on. (See pages 2-4 and 2-7 for rear panel illustrations.)

2. Document all user-defined settings on the installation worksheet (see page A-12). Restore factory-default settings (see pages 1-5 or 6-4).

IF ALL ELSE FAILS . . .

1. Power the rear panel power switch off. Wait 10 seconds. Power the rear panel power switch on. (See pages 2-4 and 2-7 for rear panel illustrations.)

2. Document all user-defined settings on the installation worksheet (see pages A-12). Restore factory-default settings (see pages 1-5 or 6-4).

3. Contact an authorized JBL Synthesis dealer.

4. Contact JBL Synthesis customer service at 818-830-8757.

Note:

Visit www.jblsynthesis.com for additional information.

RESTORING FACTORY-DEFAULT SETTINGS

The procedure below outlines the process to restore factory-default settings. Before performing these steps, record custom settings on the installation worksheet (see page A-12). All parameters will be reset to their factory-default value. This procedure should be performed before setup begins.

To restore factory-default settings:

1. Record user-defined settings on the installation worksheet (see page A-12).

2. If the unit is on, place it into standby by pressing the ⏻ (standby) button on the remote control. If the unit is in standby, skip ahead to Step 3.

3. Power the unit on by pressing the ⏻ (standby) button on the remote control.

4. Quickly press and hold the MUTE button on the remote control until the following hidden menu appears:

```
FACTORY SETTINGS
EXIT
RESTORE DEFAULTS
```

The MUTE button must be pressed within 3s of powering the unit on. If the message "MUTE ON" appears in the top-left corner of the screen when the MUTE button is pressed, too much time has passed. Begin again with Step 2.

5. Use the up and down MENU arrows to highlight RESTORE DEFAULTS, then press the right MENU arrow to restore factory-default settings. (Selecting the EXIT option with the right MENU arrow will cancel the restoration of factory-default settings.)

6. The message "FACTORY SETTINGS HAVE BEEN RESTORED" will appear on the screen. Press any front panel or remote control button to restart the unit.

ROUTINE MAINTENANCE

The following routine maintenance should be performed on a periodic basis:

- Clean the exterior surfaces of the unit with a soft, lint-free cloth. Do not use alcohol, benzene, acetone-based cleaners, or strong commercial cleaners. Do not use a cloth made with steel wool or metal polish. If the unit is exposed to a dusty environment, a low-pressure blower may be used to remove dust from its exterior.

- Change the remote control batteries as needed. When the batteries are low on power, the remote control will enter a low-voltage condition that prevents it from operating the unit. Operation will be restored when new batteries are installed.

A

Appendix

SPECIFICATIONS

Audio Inputs and Outputs

Audio Inputs	8 stereo pairs (RCA) *or* 5 stereo pairs and one 5.1-channel analog input
Digital Audio Inputs	6 coaxial (RCA), 6 optical (5 TosLink, and 1 optical mini jack), 1 AES/EBU; coaxial and optical inputs conform to IEC-958, S/PDIF standards
Sample Rates:	44.1, 48, 88.2, 96kHz
Accepts:	16-24 bits PCM audio, Dolby Digital, dts and dts-ES discrete data formats
Main Audio Outputs	12 unbalanced (RCA) and 12 balanced (XLR) for Front L/R, Center, LFE, Subwoofer L/R, Side L/R, Rear L/R, Auxiliary L/R
Zone 2 Audio Outputs	2 stereo pairs (RCA, one fixed and one variable output level); 2 balanced (XLR) for L/R variable output
Record Audio Outputs	2 stereo pairs (RCA, one fixed and one variable output level); 1 coaxial (RCA) and 1 optical (TosLink) S/PDIF output (in parallel)

Performance (Main Zone)

Analog-to-Digital Conversion	24-bit, 96kHz, dual-bit $\triangle\Sigma$ architecture
Digital-to-Analog Conversion	24-bit, 44.1 to 192kHz, multi-bit $\triangle\Sigma$ architecture, operating in dual-mono mode
Frequency Response	10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40 kHz, reference 1kHz
THD + Noise	Below 0.008% at 1kHz, maximum output level
Dynamic Range	108dB minimum, 111dB typical, 22kHz bandwidth
Signal-to-Noise Ratio	108dB minimum, 111dB typical, 22kHz bandwidth
Input Sensitivity	200mVrms (2Vrms for maximum output level) at 0dB input gain
Input Impedance	100kΩ in parallel with 150pF
Output Level	150mVrms typical, 6Vrms maximum (RCA outputs); 300mVrms typ, 12Vrms maximum (XLR outputs); maximum value with full-scale input signal and volume at +6dB
Output Impedance	100Ω in parallel with 150pF (RCA outputs); 50Ω in parallel with 150pF (XLR outputs)

Performance (Zone 2 and Record Zone)

Analog-to-Digital Conversion	24-bit, 44.1 to 96kHz, dual-bit $\triangle\Sigma$ architecture (Record Zone only)
Digital-to-Analog Conversion	24-bit, 44.1 to 192kHz, multi-bit $\triangle\Sigma$ architecture
Frequency Response	10Hz to 20kHz, +0.1dB/-0.25dB, -0.75dB at 40kHz, reference 1kHz
THD + Noise	Below 0.008% at 1kHz, maximum output level
Dynamic Range	105dB minimum, 108dB typical, 22kHz bandwidth
Signal-to-Noise Ratio	105dB minimum, 108dB typical, 22kHz bandwidth
Input Sensitivity	200mVrms (4Vrms for maximum output level)
Input Impedance	100kΩ in parallel with 150pF
Output Level	200mVrms typical, 4Vrms maximum (RCA outputs); 400mVrms typical, 8Vrms maximum (XLR outputs, Zone 2 only); maximum value with full-scale input signal and volume at 0dB
Output Impedance	100Ω in parallel with 150pF (RCA outputs); 50Ω in parallel with 150pF (XLR outputs, Zone 2 only)

Video Inputs and Outputs

Video Inputs	5 composite (RCA), 8 S-video, and 4 component video (3 RCA, 1 BNC)
Video Outputs	4 composite (RCA, 2 monitor and 2 record), 4 S-video (2 monitor and 2 record), and 1 component (BNC)

Performance (Composite & S-video)

NTSC M, PAL, and SECAM compatible

Switching	Active
Output Level	1.0V peak-to-peak
Impedance	75Ω
Input Return Loss	>40dB
Differential Gain	<0.5%
Differential Phase	<0.5°
Bandwidth	>25MHz
K Factor	<0.3%
Gain	±0.15dB
Signal/Noise Ratio	>70dB
Frequency Response	10Hz to 10MHz + 0.1/ -0.3dB

Performance (Component Video)

3-channel (Y, Pr, Pb), format-independent

Switching	Passive
Impedance	75Ω
Bandwidth	>300MHz
Insertion Loss	<3dB

Other

Microphone Inputs	4 3.5mm miniature phone jacks
Input sensitivity:	10mVrms (400mV maximum input level)
Input Impedance:	20kΩ (accepts balanced or unbalanced input signals)
Trigger Outputs	1 power on/off trigger, 2 programmable triggers; +12 VDC, 0.5 amps each; detachable screw terminals
RS-232 Serial Input/Output	2 9-pin D-sub connectors for system control and software upgrades
Power Requirements	90-250 VAC, 50-60Hz, 90W (universal line input), detachable power cord
Dimensions	
Width:	17.3 inches (440mm)
Height:	6.63 inches (169mm)
Depth:	14.85 inches (377mm)
Weight	45lbs (20.5kg)
Rack Mounting	Brackets are available for mounting the unit in a standard 19 inch equipment rack

Other *(continued)*

Environment		
	Operating Temp:	0° to 35°C (32° to 95°F)
	Storage Temp:	-30° to 75°C (-22° to 167°F)
	Relative Humidity:	95% maximum without condensation
Remote Control		Hand-held, battery-powered infrared remote control unit
	Batteries:	Two AA

DECLARATION OF CONFORMITY

Application of Council Directive(s): 89/336/EEC and 93/68/EEC

Standard(s) to which Conformity is Declared: EN55022:1998, EN55024:1998, EN6100-3-2 and -3:1999, and EN60065:1998

Manufacturer: Lexicon, Inc.
3 Oak Park
Bedford, MA 01730-1441 USA

The equipment identified here conforms to the Directive(s) and Standard(s) specified above.

Type of Equipment: SDP-40 Digital Surround Processor/Controller

Model: JBL Synthesis SDP-40

Date: June 1, 2001

Lexicon, Inc.
Vice President of Engineering
3 Oak Park
Bedford, MA 01730-1441 USA
Tel: 781-280-0300
Fax: 781-280-0490

MENU TREE

MAIN MENU

MODE ADJUST
AUDIO CONTROLS
SETUP

MODE ADJUST

FILM
TV
MUSIC
PL II THX
PRO LOGIC II
PL II MUSIC
PRO LOGIC
2-CHANNEL
PARTY
MONO
MONO LOGIC
MONO SURROUND
5.1 FILM
5.1 TV
5.1 MUSIC
5.1 THX SUR EX
DIGITAL
5.1 2-CHANNEL
5.1 MONO
5.1 MONO LOGIC
5.1 MONO SURR
dts ES FILM
dts ES MUSIC
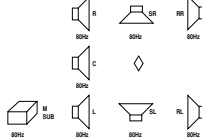dts ES THX
dts ES
dts ES 2-CHAN
5.1 BYPASS
2CH BYPASS

AUDIO CONTROLS

BASS	+0.0dB
TREBLE	+0.0dB
TILT EQ	+0.0dB
LOUDNESS	ON
BALANCE	<|>
FADER	<|>
ZONE2 BALANCE	<|>
RECORD BALANCE	<|>

SETUP

INPUTS
SPEAKERS
REAR PANEL CONFIG
DISPLAYS
VOLUME CONTROLS
TRIGGERS
LOCK OPTIONS

INPUT SETUP

DVD1
DVD2
LD
TV
SAT
VCR
CD
PVR
GAME
TAPE
TUNER
AUX

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

REAR PANEL CONFIG

8 STEREO INPUTS
OR
5 STEREO & 5.1 ANLG

DISPLAY SETUP

ON-SCREEN DISPLAY	
FRONT PANEL DISPLAY	
A/V SYNC DELAY	OFF
CUSTOM NAME	OFF
EDIT CUSTOM NAME	

VOLUME CONTROL SETUP

MAIN PWR ON	-30dB
MUTE LEVEL	FULL
ZONE PWR ON	-30dB
REC PWR ON	-30dB

TRIGGER SETUP

TRIGGER 1	PROGRAM
TRIGGER 2	PROGRAM

LOCK OPTIONS

MODES	UNLOCKED
AUDIO CNTRL	UNLOCKED
SETUP	UNLOCKED

Appendix   *JBL*

Continued from page A-5.

```
INPUT SETUP

DVD1
DVD2
LD
TV
SAT
VCR
CD
PVR
GAME
TAPE
TUNER
AUX
```

The menu pictured at the left prompts the selection of the desired input for configuration. Selecting an input accesses the corresponding INPUT SETUP menu pictured below. The parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side of the menu can be adjusted. Selecting a parameter for adjustment accesses the corresponding menu pictured on the next page.

```
DVD1 INPUT SETUP

NAME                DVD1
DIGITAL IN        COAX-1
ANALOG IN          NONE
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-1
COMPONENT IN          1
2-CH            L7 FILM
DD D         5.1 L7 FILM
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
LD INPUT SETUP

NAME                  LD
DIGITAL IN        COAX-3
ANALOG IN       ANALOG-1
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-3
COMPONENT IN          1
2-CH            L7 FILM
DD D         5.1 L7 FILM
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
SAT INPUT SETUP

NAME                 SAT
DIGITAL IN     OPTICAL-2
ANALOG IN       ANALOG-3
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-5
COMPONENT IN          4
2-CH              L7 TV
DD D           5.1 L7 TV
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
CD INPUT SETUP

NAME                  CD
DIGITAL IN        COAX-4
ANALOG IN          NONE
ANLG IN LVL        AUTO
VIDEO IN     COMPOSITE-1
COMPONENT IN          1
2-CH           L7 MUSIC
DD D        5.1 L7 MUSIC
dts=s      dts L7 MUSIC
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
GAME INPUT SETUP

NAME                GAME
DIGITAL IN     OPTICAL-4
ANALOG IN       ANALOG-6
ANLG IN LVL        AUTO
VIDEO IN     COMPOSITE-2
COMPONENT IN          1
2-CH            L7 FILM
DD D         5.1 L7 FILM
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
TUNER INPUT SETUP

NAME               TUNER
DIGITAL IN          NONE
ANALOG IN       ANALOG-8
ANLG IN LVL        AUTO
VIDEO IN            NONE
COMPONENT IN          1
2-CH           L7 MUSIC
DD D        5.1 L7 MUSIC
dts=s      dts L7 MUSIC
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
DVD2 INPUT SETUP

NAME                DVD2
DIGITAL IN        COAX-2
ANALOG IN          NONE
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-2
COMPONENT IN          2
2-CH            L7 FILM
DD D         5.1 L7 FILM
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
TV INPUT SETUP

NAME                  TV
DIGITAL IN     OPTICAL-1
ANALOG IN       ANALOG-2
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-4
COMPONENT IN          3
2-CH              L7 TV
DD D           5.1 L7 TV
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```
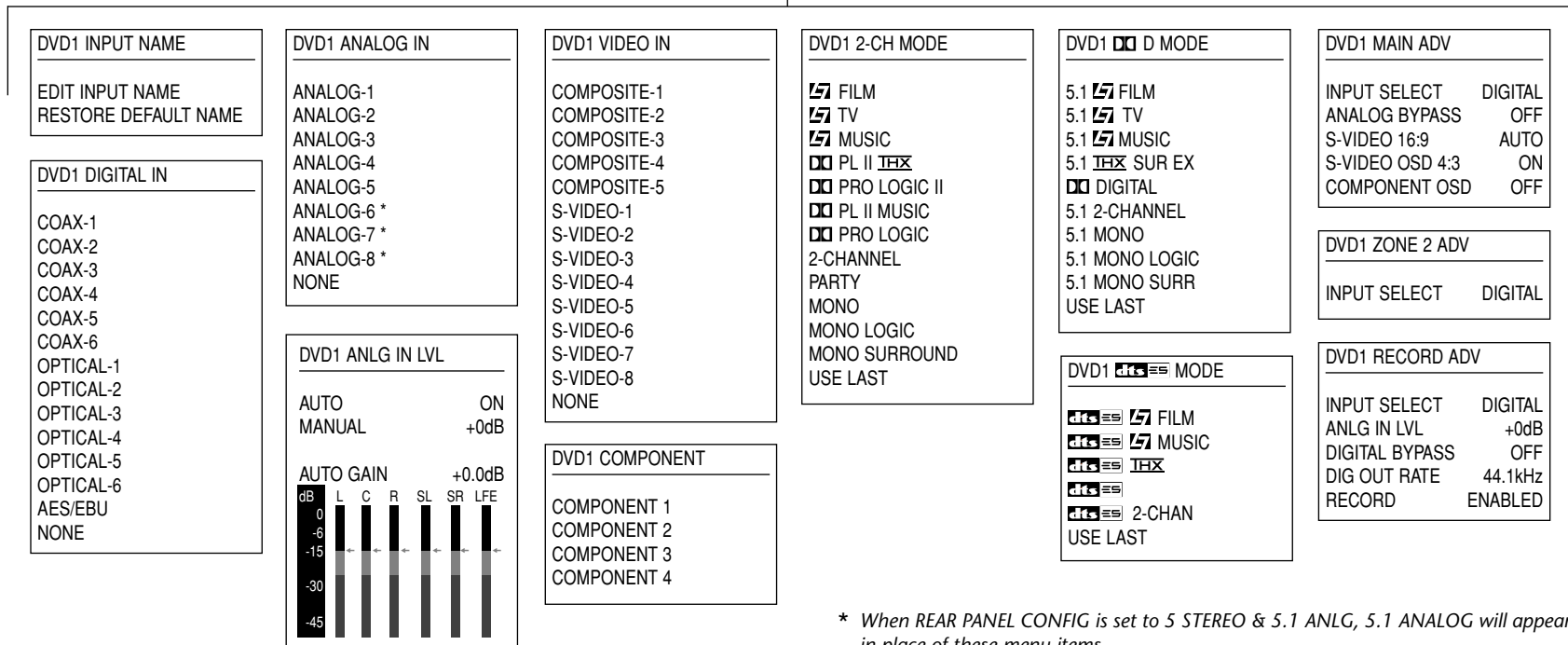
```
VCR INPUT SETUP

NAME                 VCR
DIGITAL IN          NONE
ANALOG IN       ANALOG-4
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-6
COMPONENT IN          1
2-CH            L7 FILM
DD D         5.1 L7 FILM
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
PVR INPUT SETUP

NAME                 PVR
DIGITAL IN     OPTICAL-3
ANALOG IN       ANALOG-5
ANLG IN LVL        AUTO
VIDEO IN       S-VIDEO-7
COMPONENT IN          1
2-CH              L7 TV
DD D           5.1 L7 TV
dts=s       dts L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
TAPE INPUT SETUP

NAME                TAPE
DIGITAL IN     OPTICAL-5
ANALOG IN       ANALOG-1
ANLG IN LVL        AUTO
VIDEO IN            NONE
COMPONENT IN          1
2-CH        DD PRO LOGIC
DD D        5.1 L7 MUSIC
dts=s      dts L7 MUSIC
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
AUX INPUT SETUP

NAME                 AUX
DIGITAL IN     OPTICAL-6
ANALOG IN          NONE
ANLG IN LVL        AUTO
VIDEO IN     COMPOSITE-3
COMPONENT IN          1
2-CH           L7 MUSIC
DD D        5.1 L7 MUSIC
dts=s      dts L7 MUSIC
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```
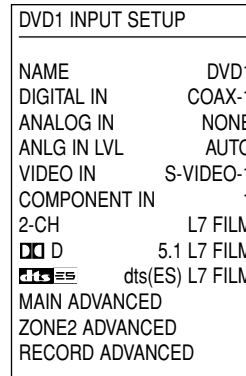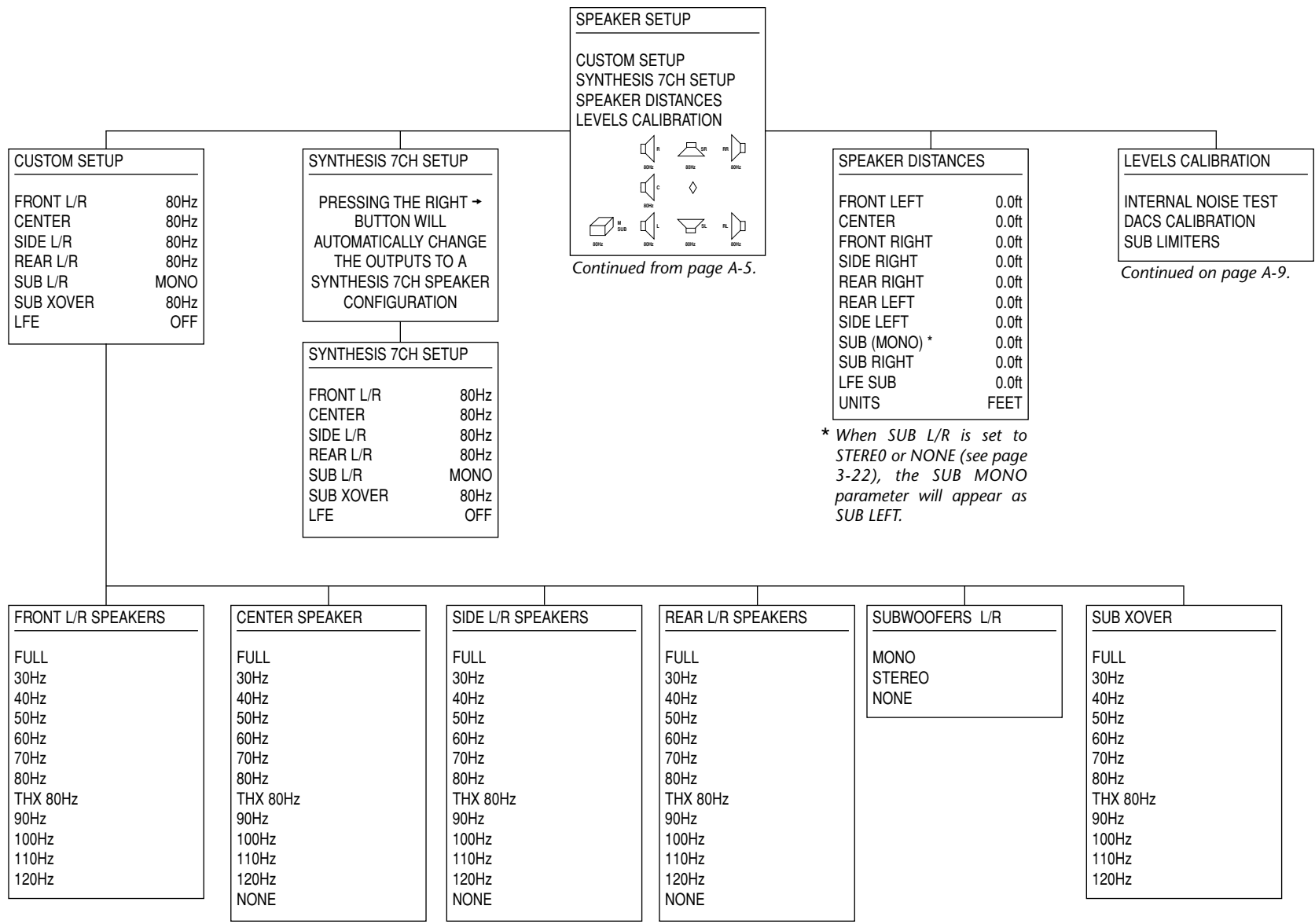
The DVD1 INPUT SETUP menu is used as an example on this page. The menus pictured below are accessible from all INPUT SETUP menus (pictured on the previous page). These menus are identical regardless of which input is selected.

```
DVD1 INPUT SETUP
_____

NAME                DVD1
DIGITAL IN         COAX-1
ANALOG IN           NONE
ANLG IN LVL         AUTO
VIDEO IN       S-VIDEO-1
COMPONENT IN           1
2-CH             L7 FILM
⫛ D          5.1 L7 FILM
dts⫛ES      dts(ES) L7 FILM
MAIN ADVANCED
ZONE2 ADVANCED
RECORD ADVANCED
```

```
DVD1 INPUT NAME
_____

EDIT INPUT NAME
RESTORE DEFAULT NAME
```

```
DVD1 DIGITAL IN
_____

COAX-1
COAX-2
COAX-3
COAX-4
COAX-5
COAX-6
OPTICAL-1
OPTICAL-2
OPTICAL-3
OPTICAL-4
OPTICAL-5
OPTICAL-6
AES/EBU
NONE
```

```
DVD1 ANALOG IN
_____

ANALOG-1
ANALOG-2
ANALOG-3
ANALOG-4
ANALOG-5
ANALOG-6 *
ANALOG-7 *
ANALOG-8 *
NONE
```

```
DVD1 ANLG IN LVL
_____

AUTO                 ON
MANUAL             +0dB

AUTO GAIN       +0.0dB
dB   L  C  R  SL  SR  LFE
0
-6
-15
-30
-45
```

```
DVD1 VIDEO IN
_____

COMPOSITE-1
COMPOSITE-2
COMPOSITE-3
COMPOSITE-4
COMPOSITE-5
S-VIDEO-1
S-VIDEO-2
S-VIDEO-3
S-VIDEO-4
S-VIDEO-5
S-VIDEO-6
S-VIDEO-7
S-VIDEO-8
NONE
```

```
DVD1 COMPONENT
_____

COMPONENT 1
COMPONENT 2
COMPONENT 3
COMPONENT 4
```

```
DVD1 2-CH MODE
_____

⫙ FILM
⫙ TV
⫙ MUSIC
⫛ PL II THX
⫛ PRO LOGIC II
⫛ PL II MUSIC
⫛ PRO LOGIC
2-CHANNEL
PARTY
MONO
MONO LOGIC
MONO SURROUND
USE LAST
```

```
DVD1 ⫛ D MODE
_____

5.1 ⫙ FILM
5.1 ⫙ TV
5.1 ⫙ MUSIC
5.1 THX SUR EX
⫛ DIGITAL
5.1 2-CHANNEL
5.1 MONO
5.1 MONO LOGIC
5.1 MONO SURR
USE LAST
```

```
DVD1 dts⫛ES MODE
_____

dts⫛ES ⫙ FILM
dts⫛ES ⫙ MUSIC
dts⫛ES THX
dts⫛ES
dts⫛ES 2-CHAN
USE LAST
```

```
DVD1 MAIN ADV
_____

INPUT SELECT     DIGITAL
ANALOG BYPASS        OFF
S-VIDEO 16:9        AUTO
S-VIDEO OSD 4:3      ON
COMPONENT OSD       OFF
```

```
DVD1 ZONE 2 ADV
_____

INPUT SELECT     DIGITAL
```

```
DVD1 RECORD ADV
_____

INPUT SELECT     DIGITAL
ANLG IN LVL        +0dB
DIGITAL BYPASS      OFF
DIG OUT RATE    44.1kHz
RECORD          ENABLED
```

*   When REAR PANEL CONFIG is set to 5 STEREO & 5.1 ANLG, 5.1 ANALOG will appear in place of these menu items.

SPEAKER SETUP

CUSTOM SETUP
SYNTHESIS 7CH SETUP
SPEAKER DISTANCES
LEVELS CALIBRATION

CUSTOM SETUP

FRONT L/R	80Hz
CENTER	80Hz
SIDE L/R	80Hz
REAR L/R	80Hz
SUB L/R	MONO
SUB XOVER	80Hz
LFE	OFF

SYNTHESIS 7CH SETUP

PRESSING THE RIGHT ➔ BUTTON WILL AUTOMATICALLY CHANGE THE OUTPUTS TO A SYNTHESIS 7CH SPEAKER CONFIGURATION

SYNTHESIS 7CH SETUP

FRONT L/R	80Hz
CENTER	80Hz
SIDE L/R	80Hz
REAR L/R	80Hz
SUB L/R	MONO
SUB XOVER	80Hz
LFE	OFF

SPEAKER DISTANCES

FRONT LEFT	0.0ft
CENTER	0.0ft
FRONT RIGHT	0.0ft
SIDE RIGHT	0.0ft
REAR RIGHT	0.0ft
REAR LEFT	0.0ft
SIDE LEFT	0.0ft
SUB (MONO) *	0.0ft
SUB RIGHT	0.0ft
LFE SUB	0.0ft
UNITS	FEET

* *When SUB L/R is set to STERE0 or NONE (see page 3-22), the SUB MONO parameter will appear as SUB LEFT.*

LEVELS CALIBRATION

INTERNAL NOISE TEST
DACS CALIBRATION
SUB LIMITERS

FRONT L/R SPEAKERS

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz

CENTER SPEAKER

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE

SIDE L/R SPEAKERS

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE

REAR L/R SPEAKERS

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz
NONE

SUBWOOFERS L/R

MONO
STEREO
NONE

SUB XOVER

FULL
30Hz
40Hz
50Hz
60Hz
70Hz
80Hz
THX 80Hz
90Hz
100Hz
110Hz
120Hz

```
┌─────────────────────────────┐
│ LEVELS CALIBRATION          │
│ ─────────────────────────── │
│ INTERNAL NOISE TEST         │
│ DACS CALIBRATION            │
│ SUB LIMITERS                │
└─────────────────────────────┘
```
Continued from page A-8.

```
┌─────────────────────────────┐
│ INTERNAL NOISE              │
│ ─────────────────────────── │
│         !CAUTION!           │
│     HIGH AUDIO LEVELS       │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ SPEAKER LEVEL ADJUST        │
│ ─────────────────────────── │
│ FRONT LEFT          +0.0dB  │
│ CENTER              +0.0dB  │
│ FRONT RIGHT         +0.0dB  │
│ SIDE RIGHT          +0.0dB  │
│ REAR RIGHT          +0.0dB  │
│ REAR LEFT           +0.0dB  │
│ SIDE LEFT           +0.0dB  │
│ SUB (MONO) *        +0.0dB  │
│ SUB RIGHT           +0.0dB  │
│ LFE SUB             +0.0dB  │
└─────────────────────────────┘
```

* *When SUB L/R is set to STERE0 or NONE (see page 3-22), the SUB MONO parameter will appear as SUB LEFT.*

```
┌─────────────────────────────┐
│ SPEAKER LEVEL ADJUST        │
│ ─────────────────────────── │
│ FRONT LEFT          +0.0dB  │
│ CENTER              +0.0dB  │
│ FRONT RIGHT         +0.0dB  │
│ SIDE RIGHT          +0.0dB  │
│ REAR RIGHT          +0.0dB  │
│ REAR LEFT           +0.0dB  │
│ SIDE LEFT           +0.0dB  │
│ SUB (MONO) *        +0.0dB  │
│ SUB RIGHT           +0.0dB  │
│ LFE SUB             +0.0dB  │
└─────────────────────────────┘
```

(DACS CALIBRATION)
* *When SUB L/R is set to STERE0 or NONE (see page 3-22), the SUB MONO parameter will appear as SUB LEFT.*

```
┌─────────────────────────────┐
│ SUB LIMITERS                │
│ ─────────────────────────── │
│ CAL NOISE              ON    │
│ L/R LIMITER           OFF    │
│ L/R LIMIT ADJ         100dB  │
│ LFE LIMITER           OFF    │
│ LFE LIMIT ADJ         100dB  │
│                             │
│         !CAUTION!           │
│     HIGH AUDIO LEVELS       │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ DISPLAY SETUP               │
│ ─────────────────────────── │
│ ON-SCREEN DISPLAY           │
│ FRONT PANEL DISPLAY         │
│ A/V SYNC DELAY        OFF    │
│ CUSTOM NAME           OFF    │
│ EDIT CUSTOM NAME            │
└─────────────────────────────┘
```
Continued from page A-5.

```
┌─────────────────────────────┐
│ ON-SCREEN DISPLAY           │
│ ─────────────────────────── │
│ STATUS         2 SECONDS    │
│ POSITION             TOP    │
│ FORMAT               NTSC    │
│ BACKGROUND            ON     │
│ REMOTE STATE          ON     │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ FRONT PANEL DISPLAY         │
│ ─────────────────────────── │
│ STATUS         ALWAYS ON    │
│ BRIGHTNESS          75%     │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ TRIGGER SETUP               │
│ ─────────────────────────── │
│ TRIGGER 1      PROGRAM      │
│ TRIGGER 2      PROGRAM      │
└─────────────────────────────┘
```
Continued from page A-5.

```
┌─────────────────────────────┐
│ TRIGGER (#) SETUP           │
│ ─────────────────────────── │
│ REMOTE CONTROL       OFF    │
│ DVD1                 OFF    │
│ DVD2                 OFF    │
│ LD                   OFF    │
│ TV                   OFF    │
│ SAT                  OFF    │
│ VCR                  OFF    │
│ CD                   OFF    │
│ PVR                  OFF    │
│ GAME                 OFF    │
│ TAPE                 OFF    │
│ TUNER                OFF    │
│ AUX                  OFF    │
│ ZONE2 INPUTS         OFF    │
│ RECORD INPUTS        OFF    │
│ 🗲 FILM              ON     │
│ 🗲 TV                ON     │
│ 🗲 MUSIC             ON     │
│ ▯▯ PL II THX        ON     │
│ ▯▯ PRO LOGIC II     ON     │
│ ▯▯ PL II MUSIC      ON     │
│ ▯▯ PRO LOGIC        ON     │
│ 2-CHANNEL            OFF    │
│ PARTY                OFF    │
│ MONO                 ON     │
│ MONO LOGIC           ON     │
│ MONO SURROUND        ON     │
│ 5.1 🗲 FILM          ON     │
│ 5.1 🗲 TV            ON     │
│ 5.1 🗲 MUSIC         ON     │
│ 5.1 THX SUR EX      ON     │
│ ▯▯ DIGITAL          ON     │
│ 5.1 2-CHANNEL        OFF    │
│ 5.1 MONO             ON     │
│ 5.1 MONO LOGIC       ON     │
│ 5.1 MONO SURR        ON     │
│ dts=ES 🗲 FILM       ON     │
│ dts=ES 🗲 MUSIC      ON     │
│ dts=ES THX          ON     │
│ dts=ES               ON     │
│ dts=ES 2-CHAN        OFF    │
└─────────────────────────────┘
```

MODE ADJUST

- 5̄ᵢ FILM
- 5̄ᵢ TV
- 5̄ᵢ MUSIC
- DCI PL II THX
- DCI PRO LOGIC II
- DCI PL II MUSIC
- DCI PRO LOGIC
- 2-CHANNEL
- PARTY
- MONO
- MONO LOGIC
- MONO SURROUND
- 5.1 5̄ᵢ FILM
- 5.1 5̄ᵢ TV
- 5.1 5̄ᵢ MUSIC
- 5.1 THX SUR EX
- DCI DIGITAL
- 5.1 2-CHANNEL
- 5.1 MONO
- 5.1 MONO LOGIC
- 5.1 MONO SURR
- dts≡s 5̄ᵢ FILM
- dts≡s 5̄ᵢ MUSIC
- dts≡s THX
- dts≡s
- dts≡s 2-CHAN
- 5.1 BYPASS
- 2CH BYPASS

Continued from page A-5.

5̄ᵢ FILM

AUTO AZIMUTH	ON
VOCAL ENHANCE	+0.0dB
RE-EQUALIZER	ON
SOUND STAGE	REAR
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
SURR ROLLOFF	15.3kHz
REAR DLY OFFSET	15ms
OUTPUT LEVELS	
CUSTOM	

5̄ᵢ TV

AUTO AZIMUTH	ON
VOCAL ENHANCE	+0.0dB
FRONT STEERING	MUSIC
RE-EQUALIZER	OFF
SOUND STAGE	REAR
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
SURR ROLLOFF	15.3kHz
REAR DLY OFFSET	15ms
OUTPUT LEVELS	
CUSTOM	

5̄ᵢ MUSIC

VOCAL ENHANCE	+0.0dB
FRONT STEERING	MUSIC
SOUND STAGE	NEUTRAL
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
SURR ROLLOFF	15.3kHz
REAR DLY OFFSET	15ms
OUTPUT LEVELS	
CUSTOM	

DCI PL II THX

RE-EQUALIZER	ON
OUTPUT LEVELS	
CUSTOM	

DCI PRO LOGIC II

OUTPUT LEVELS
CUSTOM

DCI PL II MUSIC

PANORAMA	OFF
CTR WIDTH	3
DIMENSION	NEUTRAL
SURROUND DLY	5ms
OUTPUT LEVELS	
CUSTOM	

DCI PRO LOGIC

OUTPUT LEVELS
CUSTOM

2-CHANNEL

SUB L/R LVL	+0dB
CUSTOM	

PARTY

OUTPUT LEVELS
CUSTOM

MONO

NO PARAMETERS

MONO LOGIC

EFFECT LVL	-9dB
ACADEMY FILTER	ON
SURR ROLLOFF	3.1kHz
OUTPUT LEVELS	
CUSTOM	

MONO SURROUND

OUTPUT LEVELS
CUSTOM

5.1 5̄ᵢ FILM

VOCAL ENHANCE	+0.0dB
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
RE-EQUALIZER	ON
REAR DLY OFFSET	15ms
COMPRESSION	OFF
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

5.1 5̄ᵢ TV

VOCAL ENHANCE	+0.0dB
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
RE-EQUALIZER	OFF
REAR DLY OFFSET	15ms
COMPRESSION	OFF
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

5.1 5̄ᵢ MUSIC

VOCAL ENHANCE	+0.0dB
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
RE-EQUALIZER	OFF
REAR DLY OFFSET	15ms
COMPRESSION	OFF
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

5.1 THX SUR EX

RE-EQUALIZER	ON
SURROUND EX	ON
COMPRESSION	OFF
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

DCI DIGITAL

COMPRESSION	OFF
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

5.1 2-CHANNEL

CENTER MIX	+0dB
SURROUND MIX	+0dB
CNTR DLY SAMPLES	+0
MASTER LEVEL	+0dB
COMPRESSION	OFF
LFE MIX	+0.0dB
SUB L/R LVL	+0dB
CUSTOM	

5.1 MONO

NO PARAMETERS

5.1 MONO LOGIC

EFFECT LVL	-9dB
ACADEMY FILTER	ON
SURR ROLLOFF	3.1kHz
OUTPUT LEVELS	
CUSTOM	

5.1 MONO SURR

OUTPUT LEVELS
CUSTOM

dts≡s 5̄ᵢ FILM

VOCAL ENHANCE	+0.0dB
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
RE-EQUALIZER	ON
REAR DLY OFFSET	15ms
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

dts≡s 5̄ᵢ MUSIC

VOCAL ENHANCE	+0.0dB
5 SPKR ENHANCE	OFF
BASS ENHANCE	OFF
REAR DLY OFFSET	15ms
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

ADDITIONAL LISTENING MODE MENUS

dts ES THX

RE-EQUALIZER	ON
LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

dts ES

LFE MIX	+0.0dB
OUTPUT LEVELS	
CUSTOM	

dts ES 2-CHAN

CENTER MIX	+0dB
SURROUND MIX	+0dB
CNTR DLY SAMPLES	+0
MASTER LEVEL	+0dB
LFE MIX	+0.0dB
SUB L/R LVL	+0dB
CUSTOM	

5.1 BYPASS

OUTPUT LEVELS
CUSTOM

2CH BYPASS

NO PARAMETERS

OUTPUT LEVELS

CENTER	+0dB
SIDE L/R	+0dB
REAR L/R	+0dB
SUB L/R	+0dB
LFE	+0dB

See page 5-17 for more information about the OUTPUT LEVELS menu.

CUSTOM

CUSTOM VS PRESET
RESET MODE

See page 5-17 for more information about the CUSTOM menu.

2CH STATUS

INPUT	*(see page 5-18)*
MODE	*(see page 5-18)*
INPUT TYPE	*(see page 5-18)*
SAMPLE RATE	*(see page 5-18)*
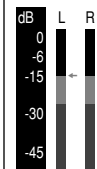
DIGITAL STATUS

CHANNELS	*(see page 5-19)*
ENCODING	*(see page 5-19)*
SAMPLE RATE	48kHz
REF OFFSET	-4dB
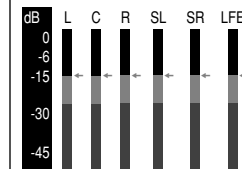
5.1 ANALOG STATUS

INPUT	*(see page 5-19)*
MODE	*(see page 5-19)*
INPUT TYPE	ANLG
SAMPLE RATE	96kHz
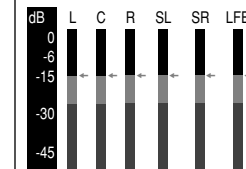
2CH BYPASS STATUS

INPUT	*(see page 5-18)*
MODE	2CH BYPASS
INPUT TYPE	BYP
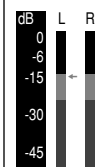
5.1 BYPASS STATUS

INPUT	*(see page 5-19)*
MODE	5.1 BYPASS
INPUT TYPE	BYP
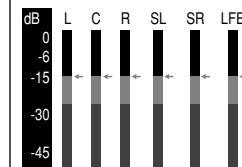
dts STATUS

INPUT	*(see page 5-20)*
MODE	*(see page 5-20)*
CHANNELS	*(see page 5-20)*
ES DECODE	*(see page 5-20)*
SAMPLE RATE	*(see page 5-20)*
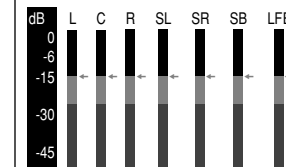
See pages 5-18 to 5-20 for more information about listening mode STATUS menus.

INSTALLATION WORKSHEET

INPUT SETUP												
	DVD1	DVD2	LD	TV	SAT	VCR	CD	PVR	GAME	TAPE	TUNER	AUX
NAME												
DIGITAL IN												
ANALOG IN												
ANLG IN LVL												
VIDEO IN												
COMPONENT IN												
2-CH												
DOLBY D												
dts-ES												
Main Advanced												
INPUT SELECT												
ANALOG BYPASS												
SVIDEO 16:9												
SVIDEO 4:3 OSD												
COMPONENT OSD												
Zone 2 Advanced												
INPUT SELECT												
Record Advanced												
INPUT SELECT												
ANLG IN LVL												
DIGITAL BYPASS												
DIG OUT RATE												
RECORD												

SPEAKER SETUP

	CUSTOM SETUP	SYNTHESIS SETUP
FRONT L/R		80Hz
CENTER		80Hz
SIDE L/R		80Hz
REAR L/R		
SUB L/R		MONO
SUB XOVER		80Hz
LFE		OFF

	OUTPUT LEVEL	DISTANCE
FRONT LEFT		
CENTER		
FRONT RIGHT		
SIDE RIGHT		
REAR RIGHT		
REAR LEFT		
SIDE LEFT		
SUB LEFT		
SUB RIGHT		
LFE		

	SETTING
CAL NOISE	
L/R LIMITER	
L/R LIMIT ADJ	
LFE LIMITER	
LFE LIMIT ADJ	

REAR PANEL CONFIG   *(circle one)*

8 STEREO INPUTS
5 STEREO & 5.1 ANLG

DISPLAY SETUP

	SETTING
On-Screen	
STATUS	
POSITION	
FORMAT	
BACKGROUND	
REMOTE STATE	
Front Panel	
STATUS	
BRIGHTNESS	
A/V SYNC DELAY	
CUSTOM	
CUSTOM NAME	

VOLUME CONTROL SETUP

	SETTING
MAIN PWR ON	
MUTE LEVEL	
ZONE PWR ON	
REC PWR ON	

TRIGGER SETUP

	SETTING
TRIGGER 1	
TRIGGER 2	

LOCK OPTIONS

	SETTING
MODES	
AUDIO CNTRL	
SETUP	

AUDIO CONTROLS

	SETTING
BASS	
TREBLE	
TILT EQ	
LOUDNESS	
BALANCE	
FADER	
ZONE2 BALANCE	
RECORD BALANCE	

Index

SYNTHESIS LIMITED WARRANTY

The following JBL Synthesis products are warranted for 2 years from the date of original purchase: Amplifiers, Equalizers, and Surround Sound Processors.

Who is protected by this warranty?
Your JBL warranty protects the original owner and all subsequent owners, so long as the original bill of sale is presented when warranty service is requested.

What is covered by the JBL warranty?
Your JBL warranty covers all defects in the material and workmanship with the following specified exceptions:

1. *Damage caused by accident, unreasonable use, or neglect (including the lack of reasonable and necessary maintenance.*
2. *Damage caused by improper installation or adjustment.*
3. *Damage occurring during shipment (claims must be presented to the carrier).*
4. *Damage to or deterioration of any accessory or decorative surface.*
5. *Damage resulting from failure to follow instructions contained in your user guide.*
6. *Damage resulting from the performance of repairs by someone other than an authorized JBL warranty station*
7. *Any JBL unit on which the serial number has been effaced, modified, or removed.*
8. *Units which have been altered or modified in design, appearance, or construction.*
9. *Products sold on an "as-is" or final sale basis.*

This warranty covers only the actual defects within the product itself, and does not cover the costs of installation or removal from a fixed installation, normal set-up, or adjustments, claims based on any misrepresentation by the seller, or performance variations resulting from installation related circumstances such as program source quality or AC power.

How to obtain warranty service
If your JBL product ever needs service, we may direct you to an Authorized JBL Warranty Station, or ask you to send your unit to the factory for repair, in which case we'll also supply a Service Return Authorization and complete shipping instructions. If the product was purchased in a country other than the USA, it is necessary to return the product to the distributor or selling location in the same country. Either way, you'll need to present the original bill of sale to establish the date of purchase. Please do not ship your JBL product to the factory without our prior authorization. In the United States, please call 1-818-830-8757 for the location of the authorized warranty station nearest you.

If service under this warranty is not necessary, but you have questions regarding the Installation or operation of this unit, please contact your authorized JBL dealer or call 1-818-830-8757 for further assistance.

Who pays for what?
JBL will be happy to pay all labor and material expenses for all repairs covered by this warranty. If necessary repairs are not covered by this warranty or if a unit is examined which is not in need of repair, you will be charged for the repairs or the examination.

Although you must pay any shipping charges incurred in getting your JBL product to an Authorized Warranty Station or to the factory, we will pay return shipping charges within the United States if the repairs are covered by the warranty. Please be sure to save the original shipping cartons because a nominal charge will be made for additional cartons.

Limitation on implied warranties
Implied warranties of merchantability and fitness for particular purpose are limited in duration to the length of this warranty, unless otherwise provided by state law.

Exclusion of certain damages
JBL's liability is limited to the repair or replacement at our option, of any defective product and shall in no event include incidental or consequential commercial damages of any kind. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion of incidental or consequential damages, so they above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

We sincerely thank you for your expression of confidence in JBL products. This equipment has been painstakingly assembled by highly trained craftspeople. It should give you many years of musical enjoyment.